



ecology and environment, inc.

101 YESLER WAY, SEATTLE, WASHINGTON, 98104, TEL. 206/624-9537

International Specialists in the Environment

NPL

PASSF 18v1
12/29/89

RECEIVED

AUG 1 1990

Subj: Pasco Landfill

TRIP REPORT

DATE: December 29, 1989
TO: Richard Fullner, TATL, E & E, Seattle, WA
FROM: Peter Witt, E & E, Seattle, WA *PW*
SUBJ: Pasco Landfill Site Assessment, Pasco, WA
REF: TDD T10-8910-019

Place Visited:

Pasco Sanitary Landfill
Pasco, Washington

Purpose of Trip:

To conduct a site assessment at Pasco Sanitary Landfill to determine the need for removal actions.

Persons Making Trip:

Peter Witt, TAT-Petroleum Engineer
Rebekah Nordquist, TAT-Environmental Scientist
Ecology and Environment, Inc., Seattle, WA (206) 624-9537

Persons Contacted:

Larry Kamberg
Benton-Franklin District Health Department (509) 934-2614

John Zillich
Technico & Enviro Services Co., (509) 735-7283

Larry Dietrich, Owner and Operator
Pasco Sanitary Landfill (509) 735-7283

Date of Trip:

November 11, 1989



☐ REMOVAL ACTION

☒ SITE ASSESSMENT



POTENTIAL HAZARDOUS WASTE SITE
SITE IDENTIFICATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
WA 0491281874

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site) Pasco Sanitary Landfill		02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER T9N, R30E Willamette Meridian SW1/4 of Section 15, NW1/4 of Section 22				
03 CITY Pasco	04 STATE WA	05 ZIP CODE	06 COUNTY Franklin		07 COUNTY CODE	08 CONG DIST

09 DIRECTIONS TO SITE (Starting from nearest public road)

Go west at intersection of Rt. 12 and Kalhout Rd., approx. one mile on east side of road.

III. RESPONSIBLE PARTIES

01 OWNER (if known) Mr. Larry Dietrich		02 STREET (Business, residential, mailing) 420 East Ainsworth			
03 CITY Pasco	04 STATE WA	05 ZIP CODE 99301	06 TELEPHONE NUMBER 509, 735-7283		
07 OPERATOR (if known and different from owner)		08 STREET (Business, residential, mailing)			
09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER ()		
13 TYPE OF OWNERSHIP (Check one) <input checked="" type="checkbox"/> A. PRIVATE <input type="checkbox"/> B. FEDERAL: _____ (Agency name) <input type="checkbox"/> C. STATE <input type="checkbox"/> D. COUNTY <input type="checkbox"/> E. MUNICIPAL <input type="checkbox"/> F. OTHER: _____ (Specify) <input type="checkbox"/> G. UNKNOWN					

IV. HOW IDENTIFIED

01 DATE IDENTIFIED ____/____/____ MONTH DAY YEAR	02 IDENTIFIED BY (Check all that apply) <input type="checkbox"/> A. CITIZEN COMPLAINT <input type="checkbox"/> B. INDUSTRY <input type="checkbox"/> C. STATE/LOCAL GOVERNMENT <input type="checkbox"/> D. AERIAL RECONNAISSANCE <input type="checkbox"/> E. RCRA INSPECTION <input type="checkbox"/> F. SURFACE IMPOUNDMENT ASSESSMENT <input type="checkbox"/> G. OTHER EPA IDENTIFICATION <input type="checkbox"/> H. OTHER <u>Previously Identified</u> (Specify)				
--	--	--	--	--	--

V. SITE CHARACTERIZATION

01 TYPE OF SITE (Check all that apply) <input type="checkbox"/> A. STORAGE <input type="checkbox"/> B. TREATMENT <input checked="" type="checkbox"/> C. DISPOSAL <input type="checkbox"/> D. UNAUTHORIZED DUMPING <input type="checkbox"/> E. OTHER _____ (Specify)	
02 SUMMARY OF KNOWN PROBLEMS (Provide narrative description) Organic contamination of groundwater on site. Contaminant concentrations are increasing in on-site well.	
03 SUMMARY OF ALLEGED OR POTENTIAL PROBLEMS (Provide narrative description) Extent of groundwater contamination is not defined.	

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)		03 TELEPHONE NUMBER ()	
04 PREPARED BY Peter Witt	05 AGENCY E & E	06 ORGANIZATION TAT	07 TELEPHONE NUMBER (206) 624-9537	08 DATE 12 / 28 / 89 MONTH DAY YEAR

BACKGROUND

On October 23, 1989, the Region X U.S. Environmental Protection Agency tasked the Region 10 Technical Assistance Team (TAT) to conduct a site assessment at the Pasco Sanitary Landfill in Pasco, Washington (Figure 1).

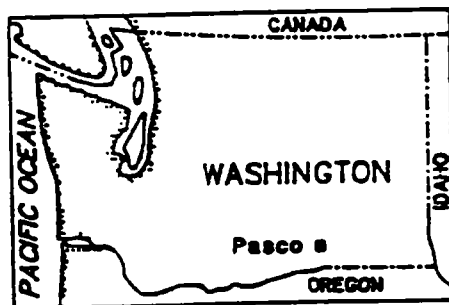
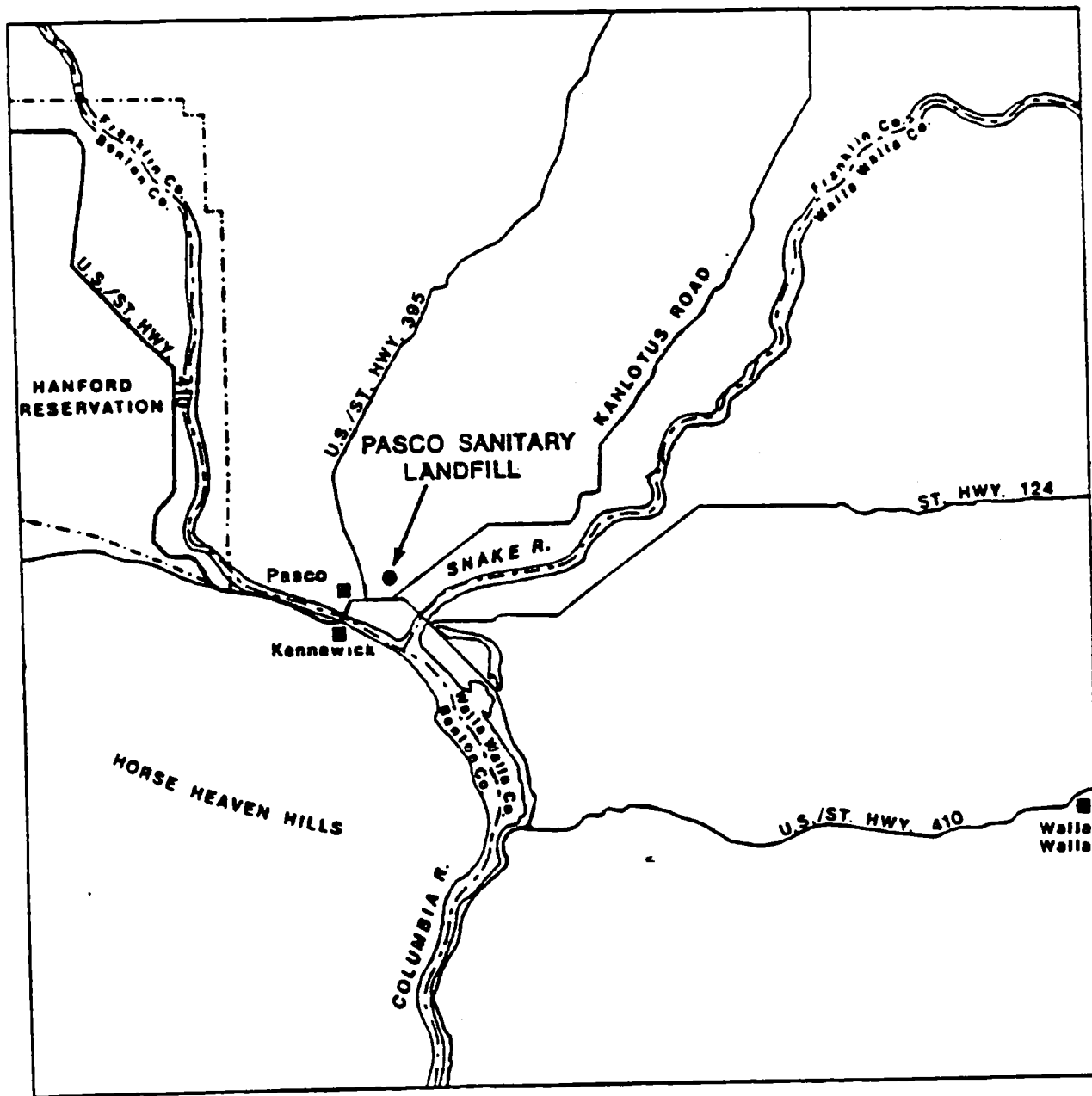
Resource Recovery Corporation leased a portion of the Pasco Sanitary Landfill (PSL) in 1972 and operated this area as a regional hazardous waste disposal site until December 1974. The site accepted hazardous wastes from several sources (Ecology and Environment, Inc. 1984).

A summary of previous environmental investigations is presented in Table 1. As can be seen in Table 1, several past investigation efforts have taken the groundwater pathway into account and have drilled and sampled on-site monitoring wells (Figure 2), and sampled off-site drinking water and irrigation supply wells. Results of these investigations show that three on-site monitoring wells are contaminated with organic compounds at low levels. Out of seven off-site drinking water wells and one on-site water supply well sampled, one drinking water well also showed volatile organic contamination. Analytical results of the Bonnie Brae well sample (collected in 1987) identified 1,1-dichloroethane and tetrachloroethene at estimated concentrations of 2.1 ug/l and 2.6 ug/l, respectively. The estimated concentration for tetrachloroethene (2.6 ug/l) did not exceed the draft maximum contaminant level of 5 ug/l; a standard is not available for 1,1-dichloroethane (40 CFR 141). It should be noted that these drinking water wells are located in a southerly direction from PSL, and the groundwater gradient in the area is oriented to the southwest (Ecology and Environment, Inc. 1987).

TAT ACTIONS

Upon completion of a thorough CERCLIS file review, the TAT met with Larry Dietrich (owner and operator of Pasco Sanitary Landfill), John Zillich (Technico and Enviro Services Co.) and Larry Kamberg (Benton Franklin District Health) on November 11, 1989, to obtain up-to-date information on PSL. According to John Zillich, a groundwater sampling program has been in place since March 1987. Table 2 presents the PSL groundwater sampling schedule and analytical parameters. John Zillich also made available to TAT last years groundwater analytical results (Appendix A). Analytical results indicate that the greatest concentration of organic contaminants was found in Well EE-3. Table 3 presents a summary of organic groundwater monitoring results of monitoring Well EE-3 from November 1988 to September 1989.

Following the meeting the TAT, Larry Dietrich, John Zillich, and Larry Kamberg went on site (Photographic Documentation: Appendix B). TAT observed a large scrap metal pile (photo #5) and several empty drums on site; no full drums or tanks were noted on site.



ecology & environment, inc.	
JOB: T10-8910-019	SITE ID: WA0280
DRAWN BY: P. WITT	DATE: 12/12/89

FIGURE 1
LOCATION MAP
PASCO SANITARY LANDFILL
Pasco, WA

TABLE 1
SUMMARY OF ENVIRONMENTAL INVESTIGATIONS
PASCO SANITARY LANDFILL, PASCO, WASHINGTON

Year	Investigator	Major Activities	Conclusions
1973	WA Dept. of Ecology	<ul style="list-style-type: none"> o Site visit and interviews o File reviews 	<ul style="list-style-type: none"> o Location appropriate for disposal of industrial solid wastes o Liquid waste disposal inappropriate due to shallow water table o Permit issued for landfill to accept potentially hazardous wastes; permit life 1973-1974
1982 - 1983	J-U-B Engineers	<ul style="list-style-type: none"> o Six monitoring wells installed under a subcontract from PSL/RRC o Quarterly sampling for TCL inorganics and cyanide 	<ul style="list-style-type: none"> o Analytical results below EPA allowable contaminant levels o Quarterly monitoring to continue under Ecology order
1984	E&E/EPA	<ul style="list-style-type: none"> o Site visit and interviews o Three ground water samples collected; analyzed for TCL organic and inorganic compounds 	<ul style="list-style-type: none"> o No evidence of organic contamination in on-site monitoring wells o Upgradient (control) well exhibited higher levels of inorganics than downgradient wells o General increase in contaminant levels over previous sampling results
1985	E&E/EPA	<ul style="list-style-type: none"> o Nine additional on-site wells installed including one new control well o Ground water and soil samples collected 	<ul style="list-style-type: none"> o Evidence of on-site ground water contamination by organic compounds o Significant increases of inorganic levels over previous sampling o Potential off-site migration
1986	EPA	<ul style="list-style-type: none"> o Eight drinking water wells sampled (1 mile downgradient) o Three on-site monitoring wells sampled o One irrigation well sampled (about 1/4 mile downgradient) 	<ul style="list-style-type: none"> o Low level organics detected in several monitoring, drinking water, and the irrigation well; all levels below drinking water standards o Anomalous inorganic data in on-site monitoring wells attributed to siltation in wells and use of different sampling techniques between various investigations o More data needed to identify sources of contaminants; resampling planned to ensure levels in drinking water wells remain safe
1987	EPA	<ul style="list-style-type: none"> o On-site ground water elevation survey o Thirteen on-site monitoring wells sampled o Seven off-site and the on-site drinking water wells sampled 	<ul style="list-style-type: none"> o Volatile organics detected in two on-site monitoring wells o Volatile organics detected in one drinking water well, but levels below drinking water standards

EPA = Environmental Protection Agency
PSL = Pasco Sanitary Landfill
RRC = Resource Recovery Corporation

TCL = Target Compound List
E&E = Ecology and Environment, Inc.

Source: Ecology and Environment, Inc. 198

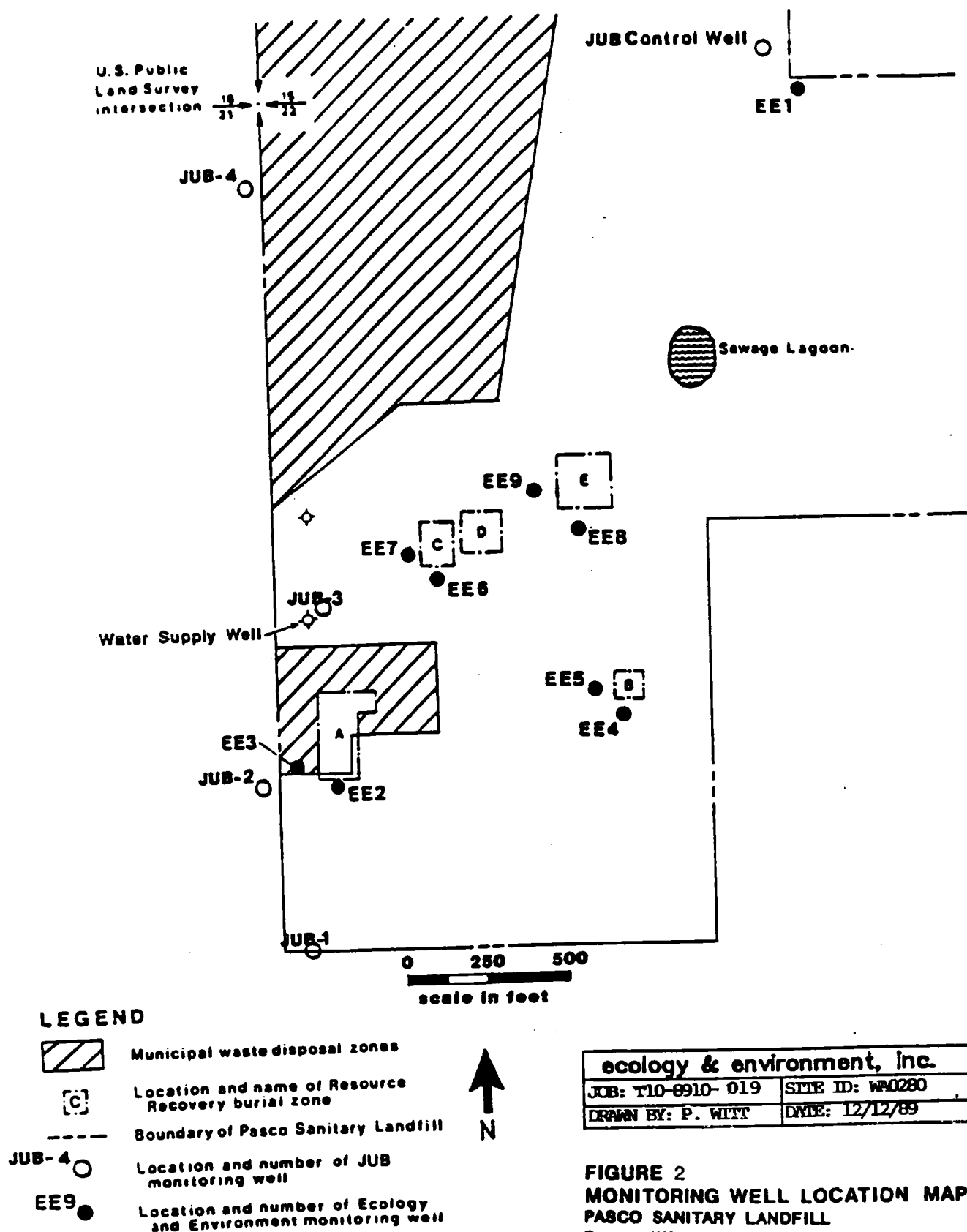


TABLE 2

**GROUNDWATER MONITORING ANALYTICAL REQUIREMENTS
PASCO SANITARY LANDFILL, PASCO, WASHINGTON**

<u>Well Location</u>	<u>Solvents *</u>	<u>Total</u>				<u>Herbicides</u>			<u>MFS ** Parameters</u>	<u>Static Water Level</u>
		<u>Fe</u>	<u>Mn</u>	<u>Cu</u>	<u>Ba</u>	<u>2,4-D</u>	<u>2,4,5-T</u>	<u>2,4,5-TP</u>		
JUB Control	1/Qtr.	1/Qtr.							1/Qtr.	1/Qtr.
JUB2	1/Qtr.	1/Qtr.							1/Qtr.	1/Qtr.
EE3	1/Qtr.	1/Qtr.				1/Yr.			1/Qtr.	1/Qtr.
JUB4	1/Qtr.	1/Qtr.							1/Qtr.	1/Qtr.
EE2	1/Qtr.	1/Qtr.				1/Yr.				1/Qtr.
EE1	1/Qtr.	1/Qtr.								1/Qtr.
EE4	1/Qtr.	1/Qtr.				1/Yr.				1/Qtr.
EE5	1/Qtr.	1/Qtr.								1/Qtr.
EE6	1/Qtr.	1/Qtr.								1/Qtr.
EE7	1/Qtr.	1/Qtr.								1/Qtr.
EE8	1/Qtr.	1/Qtr.								1/Qtr.
Water Supply	1/Qtr.	1/Qtr.								1/Qtr.
JUB1										1/Qtr.
JUB3										1/Qtr.

Source: Technico & Enviro Services, December 1989, Pasco, Washington

*Organic Solvent

1,1-Dichloroethylene
1,1-Dichloroethane
Trichloroethylene
Chloroform
1,1,1-Trichloroethane
Trichloroethylene
Tetrachloroethylene
Toluene
Total Xylene
Vinyl Chloride

**Minimum Functional
Standard Contaminants

Temperature
Conductivity
pH
Chloride
Nitrate, Nitrite, and Ammonia as Nitrogen
Sulfate
Dissolved Iron
Dissolved Zinc and Manganese
Chemical Oxygen Demand
Total Organic Carbon

TABLE 3
SUMMARY OF ORGANIC GROUNDWATER MONITORING RESULTS
WELL EE-3
PASCO SANITARY LANDFILL
PASCO, WASHINGTON ug/l (ppb)

	<u>November 23, 1988</u>	<u>March 20, 1989</u>	<u>June 3, 1989</u>	<u>September 28, 1989</u>
Vinyl Chloride	<5	<2	7.82	13.6
1,1-Dichloroethylene	18	NA	120.0	216.0
1,1-Dichloroethane	130	70	213.0	380.0
Chloroform	44	10	35.0	63.0
1,1,1-Trichloroethane	291	1000	591.0	1093.0
Trichloroethylene	112	1100	684.0	1035.0
Tetrachloroethylene	9	60	45.2	102.0
Total Xylenes	85	200	477.0	712.0
Toluene	NA	NA	996.0	2100.0

NA - Not Analyzed

CONCLUSION

The groundwater monitoring program in place at this time is currently monitoring contaminant migration in close proximity to the site. However, the location of the contaminant plume off site is not known due to the lack of wells further downgradient of the JUB or E & E installed monitoring wells. Also, there are no nearby drinking water wells southwest (groundwater gradient direction) of the site; homes in that direction are on city water supply (Zillich 1989).

REFERENCES

Ecology and Environment, Inc., 1984, Final Report For Resource Recovery Corporation, Pasco, Washington, EPA TDD #R10-8410-14.

Ecology and Environment, Inc., 1987, Field Investigation Report for Pasco Sanitary Landfill/Resource Recovery Corporation, Pasco, Washington, EPA TDD #F10-8701-04.

Zillich, John, November 14, 1989, Environmental Consultant, Technico and Enviro Services Co., Pasco, Washington, Personal Communication with Peter Witt, Ecology and Environment, Inc.

APPENDIX A
GROUNDWATER MONITORING DATA

Technico & Enviro Services Co.

Project E
File

(509) 735-7283

Suite 33

1776 Fowler

Richland, WA 99352

October 30, 1989

Mr. Cris Matthews
Solid Waste Coordinator
Environmental Quality Div.
Washington Dept. of Ecology
N. 461 Monroe Street, Suite 100
Spokane, WA 99205-1295

Subject: **Groundwater Monitoring Results at the Pasco
Sanitary Landfill**

Dear Mr. Matthews:

This letter provides you with the water quality monitoring results for wells requiring annual sampling plus the routine 3rd quarter sampling results.

Sincerely,


John A. Zillich

JAZ:tg

enclosures

cc: Larry Dietrich
Larry Kamberg



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Analytical
Chemists &
Consultants

333 Ninth Ave. North
Seattle, Wa 98109-6187
(206) 621-6490

ORGANICS ANALYSIS DATA SHEET - METHOD 8150

Lab Sample ID: **1004MB**
Matrix: **Water**

Client Sample ID : **Method Blank**
Client: **Technical Env. Services**
Project No: **88-21**
VTSR: **10/03/89**

Date Extracted: **10/4/89**
Date Analyzed: **10/11/89**
Volume Extracted: **100 ml.**
Conc/Dil Factor: **1 to 5**

Data Release Authorized: 
Report prepared on **MAC:C C.P.G. 10/25/89**

CAS Number		µg/L
93-72-1	Silvex (2,4,5-TP)	0.2 U
93-76-5	2,4,5-T	2.0 U
88-85-7	Dinoseb	0.4 U
1918-00-9	Dicamba	0.3 U
120-36-5	Dichlorprop	1.0 U
94-75-7	2,4-D	2.0 U
94-82-6	2,4-DB	2.0 U
75-99-0	Dalapon	40 U
7085-19-0	MOPP	250 U
94-74-6	MCPA	NA

*** Herbicide Surrogate Recovery**

2,3-Dichlorophenoxyacetic acid	95 %
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Data Qualifiers

- U Indicates compound was analyzed for but not detected at the given detection limit.
- J Indicates an estimated value when the result is less than the calculated detection limit.
- NA Indicates compounds were not analyzed for.



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ORGANICS ANALYSIS DATA SHEET - METHOD 8150

Lab Sample ID: 3774 C
Matrix: Water

Client Sample ID : EE4
Client: Technical Env. Services
Project No: 88-21
VTSR: 10/03/89

Date Extracted: 10/4/89
Date Analyzed: 10/11/89
Volume Extracted: 100 ml.
Conc/Dil Factor: 1 to 5

Data Release Authorized: 

Report prepared on MAC:C C.P.G. 10/25/89

CAS Number		ug/L
93-72-1	Silvex (2,4,5-TP)	0.2 U
93-76-5	2,4,5-T	2.0 U
88-85-7	Dinoseb	0.4 U
1918-00-9	Dicamba	0.3 U
120-36-5	Dichlorprop	1.0 U
94-75-7	2,4-D	2.0 U
94-82-6	2,4-DB	2.0 U
75-99-0	Dalapon	40 U
7085-19-0	MCP	250 U
94-74-6	MCPA	NA

*** Herbicide Surrogate Recovery**

2,3-Dichlorophenoxyacetic acid	109 %
--------------------------------	-------

Data Qualifiers

- U Indicates compound was analyzed for but not detected at the given detection limit.
- J Indicates an estimated value when the result is less than the calculated detection limit.
- NA Indicates compounds were not analyzed for.



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ORGANICS ANALYSIS DATA SHEET - METHOD 8150

Lab Sample ID: 3774 B
Matrix: Water

Client Sample ID : EE3
Client: Technical Env. Services
Project No: 88-21
VTSR: 10/03/89

Date Extracted: 10/4/89
Date Analyzed: 10/11/89
Volume Extracted: 100 ml.
Conc/Dil Factor: 1 to 5

Data Release Authorized.

Pete M. Kaylor
Report prepared on MAC:C C.P.G. 10/25/89

CAS Number		µg/L
93-72-1	Silvex (2,4,5-TP)	0.2 U
93-76-5	2,4,5-T	2.0 U
88-85-7	Dinoseb	0.4 U
1918-00-9	Dicamba	0.3 U
120-36-5	Dichlorprop	1.0 U
94-75-7	2,4-D	2.0 U
94-82-6	2,4-DB	2.0 U
75-99-0	Dalapon	40 U
7085-19-0	MCP	250 U
94-74-6	MCPA	NA

*** Herbicide Surrogate Recovery**

2,3-Dichlorophenoxyacetic acid	113%
--------------------------------	------

Data Qualifiers

- U Indicates compound was analyzed for but not detected at the given detection limit.
- J Indicates an estimated value when the result is less than the calculated detection limit.
- NA Indicates compounds were not analyzed for.



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ORGANICS ANALYSIS DATA SHEET - METHOD 8150

Lab Sample ID: 3774 A
Matrix: Water

Client Sample ID : EE2

Client: Technical Env. Services
Project No: 88-21
VTSR: 10/03/89

Date Extracted: 10/4/89
Date Analyzed: 10/11/89
Volume Extracted: 100 ml.
Conc/Dil Factor: 1 to 5

Data Release Authorized: *Pete M. Kaplan*

Report prepared on MAO:O C.F.G. 10/25/89

CAS Number		µg/L
93-72-1	Silvex (2,4,5-TP)	0.2 U
93-76-5	2,4,5-T	2.0 U
88-85-7	Dinoseb	0.4 U
1918-00-9	Dicamba	0.3 U
120-36-5	Dichlorprop	1.0 U
94-75-7	2,4-D	2.0 U
94-82-6	2,4-DB	2.0 U
75-99-0	Dalapon	40 U
7085-19-0	MCPP	250 U
94-74-6	MCPA	NA

*** Herbicide Surrogate Recovery**

2,3-Dichlorophenoxyacetic acid	112%
--------------------------------	------

Data Qualifiers

- U Indicates compound was analyzed for but not detected at the given detection limit.
- J Indicates an estimated value when the result is less than the calculated detection limit.
- NA Indicates compounds were not analyzed for.



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ORGANICS ANALYSIS DATA SHEET - METHOD 8150

Lab Sample ID: 3774 D
Matrix: Water

Client Sample ID : EE5
Client: Technical Env. Services
Project No: 88-21
VTSR: 10/03/89

Date Extracted: 10/4/89
Date Analyzed: 10/11/89
Volume Extracted: 100 ml.
Conc/Dil Factor: 1 to 5

Data Release Authorized: 

Report prepared on MAC:C C.P.G. 10/25/89

CAS Number		µg/L
93-72-1	Silvex (2,4,5-TP)	0.2 U
93-76-5	2,4,5-T	2.0 U
88-85-7	Dinoseb	0.4 U
1918-00-9	Dicamba	0.3 U
120-36-5	Dichlorprop	1.0 U
94-75-7	2,4-D	2.0 U
94-82-6	2,4-DB	2.0 U
75-99-0	Dalapon	40 U
7085-19-0	MCP	250 U
94-74-6	MCPA	NA

*** Herbicide Surrogate Recovery**

2,3-Dichlorophenoxyacetic acid	109%
--------------------------------	------

Data Qualifiers

- U Indicates compound was analyzed for but not detected at the given detection limit.
- J Indicates an estimated value when the result is less than the calculated detection limit.
- NA Indicates compounds were not analyzed for.

				GROUND WATER DATA SHEET				
SITE: PASCO								
DATE: 9/89								
WELL NO.	DATE	MEASURED AT	TOP OF CASING ELEVATION	DEPTH TO WATER	GROUND WATER ELEVATION	SPEC COND	pH	TEMP C
JOB CONTROL	9/28/89	TOP OF PVC	411.6	54.80	356.80	608	7.45	18.9
JOB 1	9/29/89	TOP OF PVC	417.1	70.00	347.10			
JOB 2	9/28/89	HOLE IN CAP	408.3	60.98	347.33	663	6.8	17.4
JOB 3	9/29/89	TOP OF PVC	420.4	74.23	346.17			
JOB 4	9/28/89	TOP OF PVC	393.7	41.75	351.95	663	7.3	17.4
IE 1	9/29/89	TOP OF PIPE	417.2	60.26	356.94			
IE 2	9/28/89	HOLE IN CAP	418.9	67.29	351.58		6.9	17.3
IE 3	9/28/89	HOLE IN CAP	416.8	64.80	351.97	829	6.7	19.0
IE 4	9/29/89	TOP OF PIPE	397.6	45.02	352.58			
IE 5	9/29/89	TOP OF PIPE	407.9	56.50	351.40			
IE 6	9/29/89	TOP OF PIPE	427.0	74.24	352.76			
IE 7	9/29/89	TOP OF PIPE	425.6	73.43	352.17			
IE 8	9/29/89	TOP OF PIPE	428.4	74.64	353.76			



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Consultants

333 Ninth Ave. North
Seattle, Wa 98109-5187
(206) 621-6490

10 October, 1989

John Zillie
Technical Enviromental Services
1776 Fowler Suite 33
Richland, WA 99352

**RE: Project ID:88-4; Samples submitted for TOC analysis;
ARI Job No. 3775.**

Dear Mr. Zillie:

Please find enclosed the TOC data for the above referenced project.

If you have any questions or require additional information, please do not
hesitate to call at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Catherine P. Greer
Project Coordinator

cpg

enclosures
cc: file #03775



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333 Ninth Ave. North
Seattle, Wa 98109-5187
(206) 621-6490

ORGANICS ANALYSIS DATA SHEET - Method 9060

Matrix: Waters

Project: 88-4

QC Report No: 3775-T.E.S.

Date Received: 10/03/89

Data Release Authorized: Bryan D. Anderson
Report Prepared 10/10/89 - MAC:C C.P.G.

Date of Analysis: 10/04/89

Lab ID	Sample No	Dilution Factor	Detected ppm C \pm Std Dev	% SD	TOC (ppm C) dil*ppm detected
1 Blank #1	System Blank#1	1	0.187 \pm 0.019	10	0.2
2 Blank #2	System Blank#2	1	0.171 \pm 0.020	12	0.2
3 3775 A	EE2	1	1.26 \pm 0.069	5.5	1.3
4 3775 B	EE3	1	1.87 \pm 0.075	4.0	1.9
5 3775 C	JUB Control	1	1.61 \pm 0.105	6.5	1.6
6 3775 D	JUB-4	1	1.66 \pm 0.115	6.9	1.7

QA/QC Runs:		Detected		
		ppm C \pm Std Dev	% SD	
Cali Check #1	5.0 ppm KHP#1	1	4.85 \pm 0.175	3.6
Cali Check #2	5.0 ppm KHP#2	1	4.73 \pm 0.242	5.1

Calibration: One 5.0 ppm C calibration
run each 15 samples
[Potassium Hydrogen Phthalate]

Analysis performed with a Dohrman DC180 Analyzer
in non-Purgeable Organic Carbon Mode,
using the persulfate-UV oxidation method.

QA/QC: One "Cold Blank" and one
system blank per calibration

Ten mls of sample is acidified with phosphoric acid and
purged for 10 minutes. Four 1.0 ml aliquots of each
sample are analyzed, and the average and standard
deviation reported for each sample.

ALCHEM LABORATORY

104 West 31st Street
Boise, Idaho 83714
(208) 336-1172

LABORATORY REPORT

TECHNICO AND ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

ATTENTION: JOHN ZILlich
SOURCE -: JUB CONTROL

DATE COLLECTED - - - 09/28/89
TIME COLLECTED - - -
DATE RECEIVED - - - 09/29/89
DATE REPORTED - - - 10/13/89
SUBMITTED : JOHN ZILlich

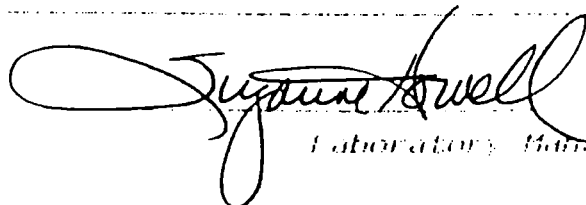
LAB SAMPLE NUMBER - 10588

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
TOTAL COLIFORM	** <1	09/29/89	KS
CHEMICAL OXYGEN DEMAND	<5.0	10/05/89	KS
CHLORIDE	26.2	09/29/89	DM
NITRATE as N	6.96	09/29/89	DM
SULFATE	63.2	09/29/89	DM
CONDUCTIVITY (umhos/cm)	608.0	10/10/89	JR
AMMONIA as N	<0.05	10/13/89	KS
BARIUM	<0.1	10/04/89	DM
COPPER	<0.01	10/10/89	SH
IRON	0.15	10/10/89	SH
MANGANESE	0.01	10/10/89	SH
IRON (DISS.)	0.02	10/10/89	SH
MANGANESE (DISS.)	<0.01	10/10/89	SH
ZINC (DISS.)	0.032	10/10/89	SH

COMMENTS: ** NO COLIFORM BACTERIA WERE FOUND ON CULTURE PLATE.
NITRITE as N - - : <0.5

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Laboratory Manager

ALCHEM LABORATORY

104 West 31st Street
Boise, Idaho 83714
(208) 336-1172

LABORATORY REPORT

TECHNICO AND ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

ATTENTION: JOHN ZILlich
SOURCE -: JUB 4

DATE COLLECTED - - -09/28/89
TIME COLLECTED - - -9:40 AM
DATE RECEIVED - - - 09/29/89
DATE REPORTED - - - 10/13/89
SUBMITTED : JOHN ZILlich

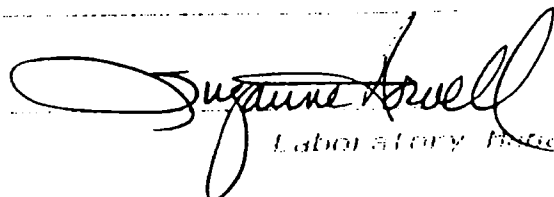
LAB SAMPLE NUMBER - 10589

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
TOTAL COLIFORM	** <1	09/29/89	KS
CHEMICAL OXYGEN DEMAND	<5.0	10/05/89	KS
CHLORIDE	26.0	09/29/89	DM
NITRATE as N	6.77	09/29/89	DM
SULFATE	61.9	09/29/89	DM
CONDUCTIVITY (umhos/cm)	663.0	10/10/89	JR
AMMONIA as N	<0.05	10/13/89	KS
BARIUM	<0.1	10/04/89	DM
COPPER	<0.01	10/10/89	SH
IRON	0.04	10/10/89	SH
MANGANESE	<0.01	10/10/89	SH
IRON (DISS.)	0.01	10/10/89	SH
MANGANESE (DISS.)	<0.01	10/10/89	SH
ZINC (DISS.)	0.014	10/10/89	SH

COMMENTS: ** NO COLIFORM BACTERIA WERE FOUND ON CULTURE PLATE.
NITRITE as N : <0.5

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Laboratory Manager

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LABORATORY REPORT

TECHNICO AND ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

ATTENTION: JOHN ZILlich
SOURCE -: JUB 2

DATE COLLECTED - - -09/28/89
TIME COLLECTED - - -
DATE RECEIVED - - - 09/29/89
DATE REPORTED - - - 10/13/89
SUBMITTED : JOHN ZILlich

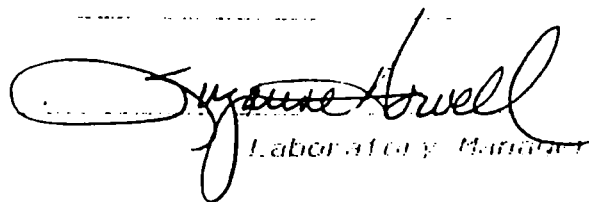
LAB SAMPLE NUMBER - 10590

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
CHEMICAL OXYGEN DEMAND	33.0	10/05/89	KS
CHLORIDE	36.3	10/13/89	KS
NITRATE as N	6.94	10/05/89	KS
SULFATE	65.6	10/13/89	KS
CONDUCTIVITY (umhos/cm)	663.0	10/10/89	JR
AMMONIA as N	<0.05	10/13/89	KS
BARIUM	<0.1	10/12/89	DM
COPPER	<0.01	10/10/89	SH
IRON	0.02	10/10/89	SH
MANGANESE	0.01	10/10/89	SH
IRON (DISS.)	0.02	10/10/89	SH
MANGANESE (DISS.)	0.01	10/10/89	SH
ZINC (DISS.)	0.019	10/10/89	SH

COMMENTS: NITRITE as N - - : <0.5

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LABORATORY REPORT

TECHNICO AND ENVIRO SERVICE

1776 FOWLER, SUITE 33

RICHLAND, WASHINGTON

99352

ATTENTION: JOHN ZILlich

SOURCE -: EE 3

DATE COLLECTED - - -09/28/89

TIME COLLECTED - - -

DATE RECEIVED - - - 09/29/89

DATE REPORTED - - - 10/13/89

SUBMITTED : JOHN ZILlich

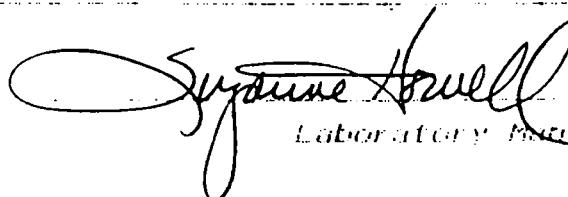
LAB SAMPLE NUMBER - 10591

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
TOTAL COLIFORM	** <1	09/29/89	KS
CHEMICAL OXYGEN DEMAND	13.0	10/05/89	KS
CHLORIDE	39.2	09/29/89	DM
NITRATE as N	0.29	09/29/89	DM
SULFATE	65.2	09/29/89	DM
CONDUCTIVITY (umhos/cm)	829.0	10/10/89	JR
AMMONIA as N	<0.05	10/13/89	KS
BARIUM	0.1	10/04/89	DM
COPPER	<0.01	10/10/89	SH
IRON	10.3	10/10/89	SH
MANGANESE	1.12	10/10/89	SH
IRON (DISS.)	0.12	10/10/89	SH
MANGANESE (DISS.)	1.04	10/10/89	SH
ZINC (DISS.)	0.026	10/10/89	SH

COMMENTS: ** NO COLIFORM BACTERIA WERE FOUND ON CULTURE PLATE.
NITRITE as N - - - <0.5

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TECNICO AND ENVIRO SERVICE
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RICHLAND, WASHINGTON 99352

DATE COLLECTED - - -09/28/89
TIME COLLECTED - - -2:37 PM
DATE RECEIVED - - - 09/29/89
DATE REPORTED - - - 10/11/89
SUBMITTED : JOHN ZILLICH

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
BARIUM	<0.1	10/04/89	DM
COPPER	<0.01	10/10/89	SH
IRON	0.06	10/10/89	SH
MANGANESE	<0.01	10/10/89	SH

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LABORATORY REPORT

TECHNICO AND ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

ATTENTION: JOHN ZILlich
SOURCE -: WSW

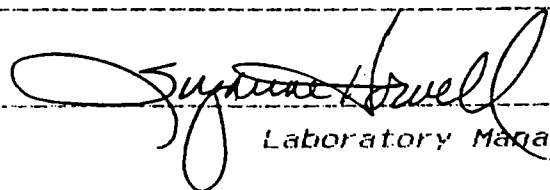
DATE COLLECTED - - -09/28/89
TIME COLLECTED - - -
DATE RECEIVED - - - 10/05/89
DATE REPORTED - - - 10/12/89
SUBMITTED : JOHN ZILlich

LAB SAMPLE NUMBER - 10747

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
BARIUM	<0.1	10/12/89	DM
COPPER	<0.01	10/10/89	SH
IRON	0.02	10/10/89	SH
MANGANESE	<0.01	10/10/89	SH

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LABORATORY REPORT

TECHNICO AND ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

ATTENTION: JOHN ZILLICH
SOURCE -: EB8

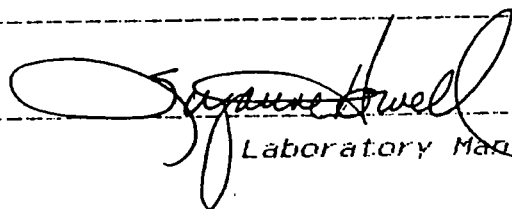
DATE COLLECTED - - -09/28/89
TIME COLLECTED - - -10:40 AM
DATE RECEIVED - - - 10/05/89
DATE REPORTED - - - 10/12/89
SUBMITTED : JOHN ZILLICH

LAB SAMPLE NUMBER - 10746

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
BARIUM	0.1	10/12/89	DM
COPPER	<0.01	10/10/89	SH
IRON	0.02	10/10/89	SH
MANGANESE	<0.01	10/10/89	SH

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LABORATORY REPORT

TECHNICO AND ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

ATTENTION: JOHN ZILlich
SOURCE -: EE7

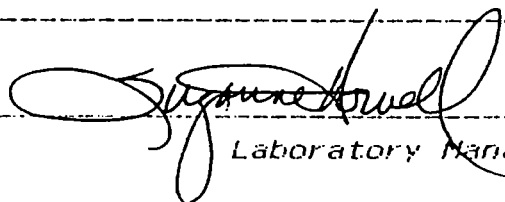
DATE COLLECTED - - -09/28/89
TIME COLLECTED - - -9:11 AM
DATE RECEIVED - - - 10/05/89
DATE REPORTED - - - 10/12/89
SUBMITTED : JOHN ZILlich

LAB SAMPLE NUMBER - 10745

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
BARIUM	0.1	10/12/89	DM
COPPER	<0.01	10/10/89	SH
IRON	0.22	10/10/89	SH
MANGANESE	0.01	10/10/89	SH

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LABORATORY REPORT

TECHNICO AND ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

ATTENTION: JOHN ZILlich
SOURCE -: EE6

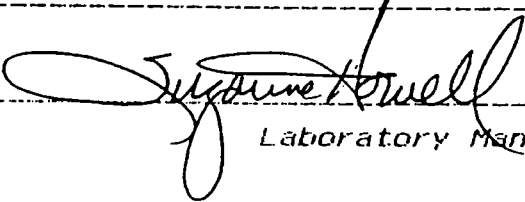
DATE COLLECTED - - -09/28/89
TIME COLLECTED - - -
DATE RECEIVED - - - 10/05/89
DATE REPORTED - - - 10/12/89
SUBMITTED : JOHN ZILlich

LAB SAMPLE NUMBER - 10744

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
BARIUM	0.1	10/12/89	DM
COPPER	0.03	10/10/89	SH
IRON	2.48	10/10/89	SH
MANGANESE	0.10	10/10/89	SH

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LABORATORY REPORT

TECHNICO AND ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

ATTENTION: JOHN ZILlich
SOURCE -: BE5

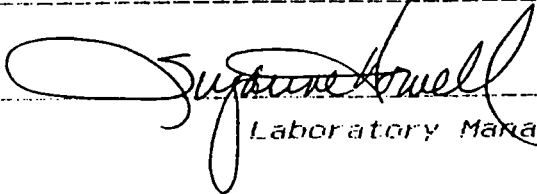
DATE COLLECTED - - -09/28/89
TIME COLLECTED - - -2:40 PM
DATE RECEIVED - - -10/05/89
DATE REPORTED - - -10/12/89
SUBMITTED : JOHN ZILlich

LAB SAMPLE NUMBER - 10743

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
BARIUM	0.1	10/12/89	DM
COPPER	<0.01	10/10/89	SH
IRON	0.01	10/10/89	SH
MANGANESE	<0.01	10/10/89	SH

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LABORATORY REPORT

TECHNICO AND ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

ATTENTION: JOHN ZILlich
SOURCE -: EE4

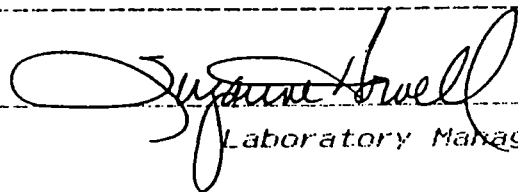
DATE COLLECTED - - -09/28/89
TIME COLLECTED - - -
DATE RECEIVED - - - 10/05/89
DATE REPORTED - - - 10/12/89
SUBMITTED : JOHN ZILlich

LAB SAMPLE NUMBER - 10742

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
BARIUM	0.1	10/12/89	DM
COPPER	<0.01	10/10/89	SH
IRON	0.01	10/10/89	SH
MANGANESE	0.01	10/10/89	SH

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TECHNICO - ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

DATE COLLECTED: 09/28/89
TIME COLLECTED: 12:30 PM
DATE RECEIVED: 09/29/89
DATE REPORTED: 10/26/89

ATTENTION: JOHN ZILLICH
SOURCE: JUB 2

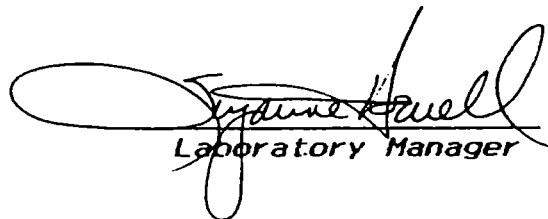
LABORATORY SAMPLE NO. - 10592

=====

ANALYSIS	RESULTS (ppb)
Vinyl Chloride	<2
1,1 Dichloroethane	73.8
Chloroform	33.1
1,1,1 Trichloroethane	134.0
Trichloroethene	166.0
Tetrachloroethene	9.8
Total Xylene	<2
1,1 Dichloroethene	37.3
trans 1,2 Dichloroethene	<2
Toluene	<2

=====

Analyst: Dale Myers


Laboratory Manager

ALCHEM LABORATORY

104 W. 31st Street
Boise, Idaho 83714
(208)336-1172

TECHNICO - ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

DATE COLLECTED: 10/03/89
TIME COLLECTED:
DATE RECEIVED: 10/04/89
DATE REPORTED: 10/26/89

ATTENTION: JOHN ZILlich
SOURCE: BK 8

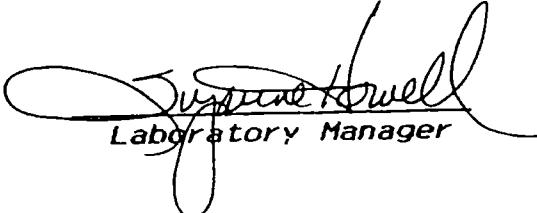
LABORATORY SAMPLE NO. - 10718

ANALYSIS

RESULTS (ppb)

Vinyl Chloride	<2
1,1 Dichloroethane	<2
Chloroform	<2
1,1,1 Trichloroethane	<2
Trichloroethene	<2
Tetrachloroethene	<2
Total Xylene	<2
1,1 Dichloroethene	<2
trans 1,2 Dichloroethene	<2
Toluene	<2

Analyst: Dale Myers


Laboratory Manager

ALCHEM LABORATORY

104 W. 31st Street
Boise, Idaho 83714
(208)336-1172

TECHNICO - ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

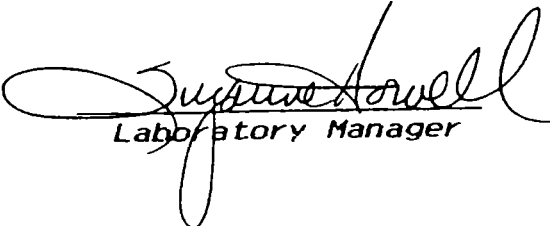
DATE COLLECTED: 10/03/89
TIME COLLECTED:
DATE RECEIVED: 10/04/89
DATE REPORTED: 10/26/89

ATTENTION: JOHN ZILLICH
SOURCE: BE 7

LABORATORY SAMPLE NO. - 10717

ANALYSIS	RESULTS (ppb)
Vinyl Chloride	<2
1,1 Dichloroethane	<2
Chloroform	<2
1,1,1 Trichloroethane	<2
Trichloroethene	<2
Tetrachloroethene	<2
Total Xylene	<2
1,1 Dichloroethene	<2
trans 1,2 Dichloroethene	<2
Toluene	<2

Analyst: Dale Myers


Laboratory Manager

ALCHEM LABORATORY

104 W. 31st Street
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(208)336-1172

TECHNICO - ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

DATE COLLECTED: 10/03/89
TIME COLLECTED:
DATE RECEIVED: 10/04/89
DATE REPORTED: 10/26/89

ATTENTION: JOHN ZILlich
SOURCE: EB 6

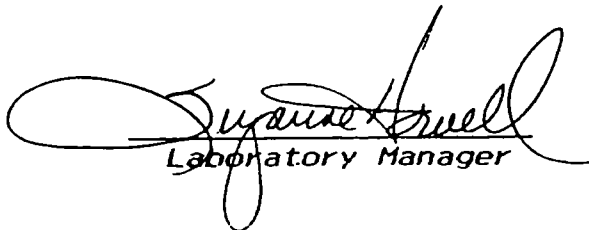
LABORATORY SAMPLE NO. - 10716

=====

ANALYSIS	RESULTS (ppb)
Vinyl Chloride	<2
1,1 Dichloroethane	<2
Chloroform	<2
1,1,1 Trichloroethane	<2
Trichloroethene	<2
Tetrachloroethene	<2
Total Xylene	<2
1,1 Dichloroethene	<2
trans 1,2 Dichloroethene	<2
Toluene	<2

=====

Analyst: Dale Myers


Laboratory Manager

ALCHEM LABORATORY

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Boise, Idaho 83714
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TECHNICO - ENVIRO SERVICE
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RICHLAND, WASHINGTON 99352

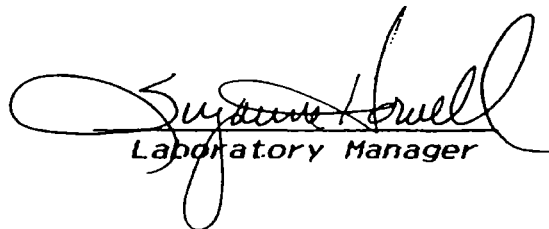
DATE COLLECTED: 10/03/89
TIME COLLECTED:
DATE RECEIVED: 10/04/89
DATE REPORTED: 10/26/89

ATTENTION: JOHN ZILLICH
SOURCE: EE 5

LABORATORY SAMPLE NO. - 10715

ANALYSIS	RESULTS (ppb)
Vinyl Chloride	<2
1,1 Dichloroethane	<2
Chloroform	<2
1,1,1 Trichloroethane	<2
Trichloroethene	<2
Tetrachloroethene	<2
Total Xylene	<2
1,1 Dichloroethene	<2
trans 1,2 Dichloroethene	<2
Toluene	<2

Analyst: Dale Myers


Laboratory Manager

ALCHEM LABORATORY

104 W. 31st Street
Boise, Idaho 83714
(208)336-1172

TECHNICO - ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

DATE COLLECTED: 10/03/89
TIME COLLECTED:
DATE RECEIVED: 10/04/89
DATE REPORTED: 10/26/89

ATTENTION: JOHN ZILLICH
SOURCE: EE 4

LABORATORY SAMPLE NO. - 10714

=====

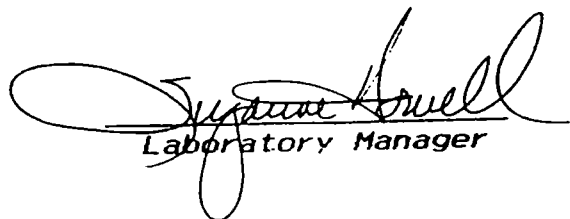
ANALYSIS

RESULTS (ppb)

Vinyl Chloride	<2
1,1 Dichloroethane	<2
Chloroform	<2
1,1,1 Trichloroethane	<2
Trichloroethene	<2
Tetrachloroethene	<2
Total Xylene	<2
1,1 Dichloroethene	<2
trans 1,2 Dichloroethene	<2
Toluene	<2

=====

Analyst: Dale Myers


Laboratory Manager

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Boise, Idaho 83714
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TECHNICO - ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

DATE COLLECTED: 10/03/89
TIME COLLECTED: 4:00 PM
DATE RECEIVED: 10/04/89
DATE REPORTED: 10/26/89

ATTENTION: JOHN ZILLICH
SOURCE: NSW

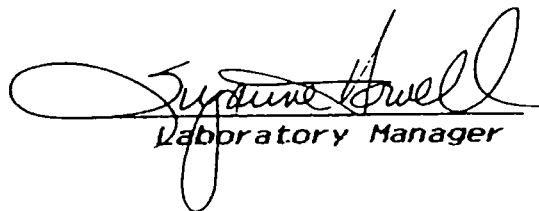
LABORATORY SAMPLE NO. - 10599

=====

ANALYSIS	RESULTS (ppb)
Vinyl Chloride	<2
1,1 Dichloroethane	<2
Chloroform	<2
1,1,1 Trichloroethane	<2
Trichloroethene	<2
Tetrachloroethene	<2
Total Xylene	<2
1,1 Dichloroethene	<2
trans 1,2 Dichloroethene	<2
Toluene	<2

=====

Analyst: Dale Myers


Laboratory Manager

ALCHEM LABORATORY

104 W. 31st Street
Boise, Idaho 83714
(208)336-1172

TECHNICO - ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

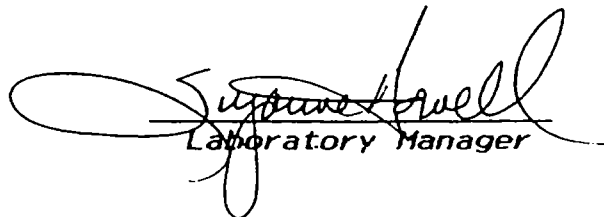
DATE COLLECTED: 09/28/89
TIME COLLECTED:
DATE RECEIVED: 09/29/89
DATE REPORTED: 10/26/89

ATTENTION: JOHN ZILlich
SOURCE: EE 3

LABORATORY SAMPLE NO. - 10598

ANALYSIS	RESULTS (ppb)
Vinyl Chloride	13.6
1,1 Dichloroethane	380.0
Chloroform	63.0
1,1,1 Trichloroethane	1093.0
Trichloroethene	1035.0
Tetrachloroethene	102.0
Total Xylene	712.0
1,1 Dichloroethene	216.0
trans 1,2 Dichloroethene	<2
Toluene	2100.0

Analyst: Dale Myers


Laboratory Manager

ALCHEM LABORATORY

104 W. 31st Street
Boise, Idaho 83714
(208)336-1172

TECHNICO - ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

DATE COLLECTED: 09/28/89
TIME COLLECTED: 2:37 PM
DATE RECEIVED: 09/29/89
DATE REPORTED: 10/26/89

ATTENTION: JOHN ZILLICH
SOURCE: EE 2

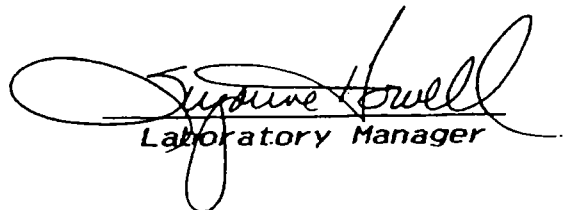
LABORATORY SAMPLE NO. - 10597

=====

ANALYSIS	RESULTS (ppb)
Vinyl Chloride	<2
1,1 Dichloroethane	9.7
Chloroform	<2
1,1,1 Trichloroethane	25.3
Trichloroethene	24.8
Tetrachloroethene	6.4
Total Xylene	<2
1,1 Dichloroethene	4.3
trans 1,2 Dichloroethene	<2
Toluene	<2

=====

Analyst: Dale Myers


Laboratory Manager

ALCHEM LABORATORY

104 W. 31st Street
Boise, Idaho 83714
(208)336-1172

TECHNICO - ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

DATE COLLECTED: 09/28/89
TIME COLLECTED: 9:40 AM
DATE RECEIVED: 09/29/89
DATE REPORTED: 10/26/89

ATTENTION: JOHN ZILLICH
SOURCE: JUB 4

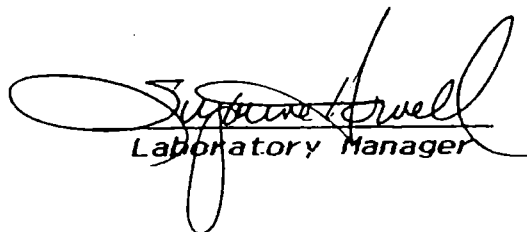
LABORATORY SAMPLE NO. - 10596

=====

ANALYSIS	RESULTS (ppb)
Vinyl Chloride	<2
1,1 Dichloroethane	<2
Chloroform	<2
1,1,1 Trichloroethane	<2
Trichloroethene	<2
Tetrachloroethene	<2
Total Xylene	<2
1,1 Dichloroethene	<2
trans 1,2 Dichloroethene	<2
Toluene	<2

=====

Analyst: Dale Myers


Laboratory Manager

ALCHEM LABORATORY

104 W. 31st Street
Boise, Idaho 83714
(208)336-1172

TECHNICO - ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

DATE COLLECTED: 09/28/89
TIME COLLECTED:
DATE RECEIVED: 09/29/89
DATE REPORTED: 10/26/89

ATTENTION: JOHN ZILLICH
SOURCE: JUB CONTROL

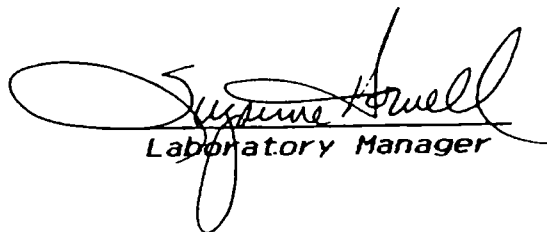
LABORATORY SAMPLE NO. - 10595

=====

ANALYSIS	RESULTS (ppb)
Vinyl Chloride	<2
1,1 Dichloroethane	<2
Chloroform	<2
1,1,1 Trichloroethane	<2
Trichloroethene	<2
Tetrachloroethene	<2
Total Xylene	<2
1,1 Dichloroethene	<2
trans 1,2 Dichloroethene	<2
Toluene	<2

=====

Analyst: Dale Myers


Laboratory Manager

Technico & Enviro Services Co.

(509) 7357283

Suite 33

1776 Fowler

Richland, Wa. 99352

File Copy
Rag Cones

July 25, 1989

Mr. Cris Matthews
Solid Waste Coordinator
Environmental Quality Div.
Washington Dept. of Ecology
N. 461 Monroe Street, Suite 100
Spokane, WA 99205-1295

Subject: Groundwater Monitoring Results at the Pasco
Sanitary Landfill

Dear Mr. Matthews:

This letter provides you with the water quality monitoring results for
the second quarter of 1989.

Sincerely,



John A. Zillich

JAZ/tg

Enclosure

cc: Larry Dietrich
Larry Kamberg

PLF FIELD MEAS 6/3/89

SITE: PASO		GROUND WATER FIELD DATA SHEET						
DATE: 6/3/89								
WELL NO	DATE	MEASURED AT	TOP OF CASING ELEVATION	DEPTH TO WATER	GROUND WATER ELEVATION	SPEC COND	pH	TEMP C
JUB CONTROL	6/3/89	TOP OF PVC	411.6	52.00	359.60	540	7.2	20.0
JUB 1	6/3/89	TOP OF PVC	417.1	68.62	348.48			
JUB 2	6/3/89	HOLE IN CAP	408.3	59.50	348.81	600	7.4	17.6
JUB 3	6/3/89	TOP OF PVC	420.4	72.73	347.67			
JUB 4	6/3/89	TOP OF PVC	393.7	40.22	353.48	640	6.7	
EE 1	6/3/89	TOP OF PIPE	417.2	57.50	359.70			
EE 2	6/3/89	HOLE IN CAP	418.9	67.31	351.56	610	7.6	18.7
EE 3	6/3/89	HOLE IN CAP	416.8	65.56	351.21	735	7	17.9
EE 4	6/3/89	TOP OF PIPE	397.6	45.84	351.76			
EE 5	6/3/89	TOP OF PIPE	407.9	54.51	353.39			
EE 6	6/3/89	TOP OF PIPE	427.0	72.35	354.65			
EE 7	6/3/89	TOP OF PIPE	425.6	71.49	354.11			
EE 8	6/3/89	TOP OF PIPE	428.4	74.12	354.28			

ALCHEM LABORATORY

104 West 31st Street
Boise, Idaho 83714
(208) 336-1172

LABORATORY REPORT

TECHNICO*ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99336

ATTENTION: JOHN ZILlich
SOURCE -: EE3

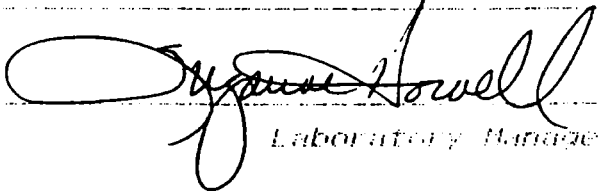
DATE COLLECTED - - -06/03/89
TIME COLLECTED - - -
DATE RECEIVED - - - 06/07/89
DATE REPORTED - - - 06/29/89
SUBMITTED : JOHN ZILlich

LAB SAMPLE NUMBER - 8575

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
CHEMICAL OXYGEN DEMAND	38.0	06/09/89	RC
BARIUM	0.1	06/29/89	DM
COPPER	<0.01	06/23/89	SH
IRON (DISS.)	0.02	06/23/89	SH
MANGANESE (DISS.)	1.05	06/23/89	SH
ZINC (DISS.)	0.003	06/26/89	SH

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Laboratory Manager

ALCHEM LABORATORY

104 West 31st Street
Boise, Idaho 83714
(208) 336-1172

LABORATORY REPORT

TECHNICO*ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99336

ATTENTION: JOHN ZILLICH
SOURCE -: JUB 2

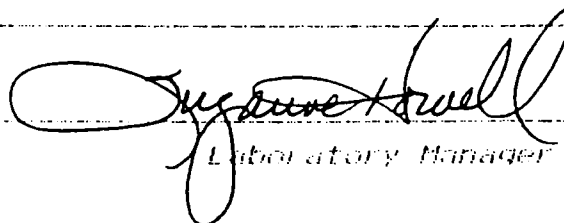
DATE COLLECTED - - -06/03/89
TIME COLLECTED - - -
DATE RECEIVED - - - 06/07/89
DATE REPORTED - - - 06/29/89
SUBMITTED : JOHN ZILLICH

LAB SAMPLE NUMBER - 8576

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
CHEMICAL OXYGEN DEMAND	6.0	06/09/89	RC
BARIUM	<0.1	06/29/89	DM
COPPER	<0.01	06/23/89	SH
IRON (DISS.)	0.01	06/23/89	SH
MANGANESE (DISS.)	<0.01	06/23/89	SH
ZINC (DISS.)	0.006	06/26/89	SH

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Laboratory Manager

ALCHEM LABORATORY

104 West 31st Street
Boise, Idaho 83714
(208) 336-1172

LABORATORY REPORT

TECHNICO*ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99336

ATTENTION: JOHN ZILlich
SOURCE -: JUB 4

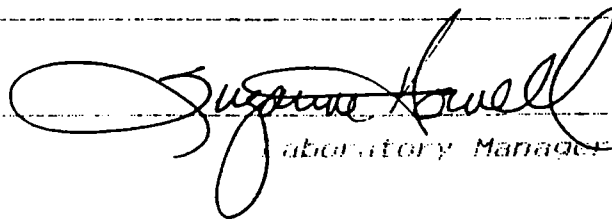
DATE COLLECTED - - -06/03/89
TIME COLLECTED - - -
DATE RECEIVED - - - 06/07/89
DATE REPORTED - - - 06/29/89
SUBMITTED : JOHN ZILlich

LAB SAMPLE NUMBER - 8577

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
CHEMICAL OXYGEN DEMAND	10.0	06/09/89	RC
BARIUM	0.1	06/29/89	DM
COPPER	<0.01	06/23/89	SH
IRON (DISS.)	<0.01	06/23/89	SH
MANGANESE (DISS.)	<0.01	06/23/89	SH
ZINC (DISS.)	0.009	06/26/89	SH

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Laboratory Manager

ALCHEM LABORATORY

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Boise, Idaho 83714
(208) 336-1172

LABORATORY REPORT

TECHNICO*ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99336

ATTENTION: JOHN ZILlich
SOURCE -: JUB CONTROL

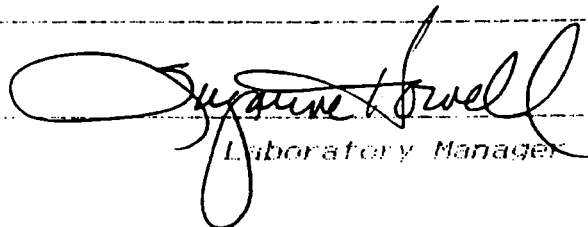
DATE COLLECTED - - -06/03/89
TIME COLLECTED - - -
DATE RECEIVED - - - 06/07/89
DATE REPORTED - - - 06/29/89
SUBMITTED : JOHN ZILlich

LAB SAMPLE NUMBER - 8578

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
CHEMICAL OXYGEN DEMAND	11.0	06/09/89	RC
BARIUM	<0.1	06/29/89	DM
COPPER	0.01	06/23/89	SH
IRON (DISS.)	0.03	06/23/89	SH
MANGANESE (DISS.)	<0.01	06/23/89	SH
ZINC (DISS.)	0.011	06/26/89	SH

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested. Liability is limited to cost of analysis.


Laboratory Manager

ALCHEM LABORATORY

104 W. 31st Street
Boise, Idaho 83714
(208)336-1172

TECHNICO - ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

DATE COLLECTED: 06/03/89
DATE RECEIVED: 06/07/89
DATE REPORTED: 06/19/89

ATTENTION: JOHN ZILLICH
SOURCE: JUB 2

LABORATORY SAMPLE NO. - 8581

ANALYSIS	RESULTS (ppb)
Vinyl Chloride	<2
1,1 Dichloroethane	39.7
Chloroform	16.1
1,1,1 Trichloroethane	85.1
Trichloroethene	107.0
Tetrachloroethene	5.9
Total Xylene	<2
1,1 Dichloroethene	16.3
trans 1,2 Dichloroethene	<2
Toluene	<2

Analyst: Dale Myers


Laboratory Manager

Note: The portable bladder pump
used to sample JUB Control +
JUB 4 had a leak and was inoperable.

ALCHEM LABORATORY

104 W. 31st Street
Boise, Idaho 83714
(208)336-1172

TECHNICO - ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

DATE COLLECTED: 06/03/89
DATE RECEIVED: 06/07/89
DATE REPORTED: 06/19/89

ATTENTION: JOHN ZILLICH
SOURCE: EE2

LABORATORY SAMPLE NO. - 8579

=====

ANALYSIS	RESULTS (ppb)
Vinyl Chloride	<2
1,1 Dichloroethane	20.2
Chloroform	2.3
1,1,1 Trichloroethane	50.5
Trichloroethene	52.0
Tetrachloroethene	30.6
Total Xylene	<2
1,1 Dichloroethene	10.2
trans 1,2 Dichloroethene	<2
Toluene	<2

=====

Analyst: Dale Myers


Laboratory Manager

ALCHEM LABORATORY

104 W. 31st Street
Boise, Idaho 83714
(208)336-1172

TECHNICO - ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

DATE COLLECTED: 06/03/89
DATE RECEIVED: 06/07/89
DATE REPORTED: 06/19/89

ATTENTION: JOHN ZILlich
SOURCE: BE3

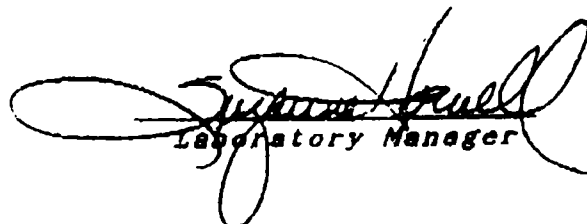
LABORATORY SAMPLE NO. - 8580

=====

ANALYSIS	RESULTS (ppb)
Vinyl Chloride	7.82
1,1 Dichloroethane	213.0
Chloroform	35.0
1,1,1 Trichloroethane	591.0
Trichloroethene	684.0
Tetrachloroethene	46.2
Total Xylene	477.0
1,1 Dichloroethene	120.0
trans 1,2 Dichloroethene	<2
Toluene	996.0

=====

Analyst: Dale Myers


Laboratory Manager

TECHNICO & ENVIRO SERVICES CO.
ANALYTICAL REPORT

CLIENT: PASCO LANDFILL
SAMPLED: 6/3/89
REPORTED: 7/20/89

LOCATION	DATE	CHLORIDE	AMMONIA	NITRITE
JUB CONRTOL	6/3/89	25.5	<0.1	<0.05
EE3	6/3/89	42.5	<0.1	<0.05
JUB2	6/3/89	30.0	<0.1	<0.05
JUB4	6/3/89	27.0	<0.1	<0.05

FIG.2. 1,1,1-TRICHLOROETHANE EE2 VS JUB2.

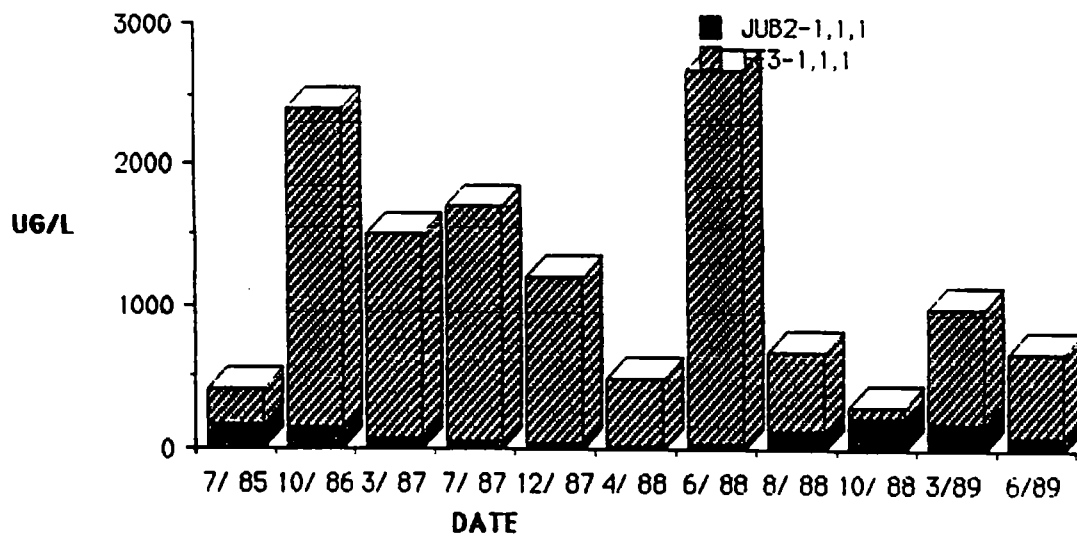


FIG.2L. 1,1,1 TRICHLOROETHANE EE2 VS JUB2 VS STD.

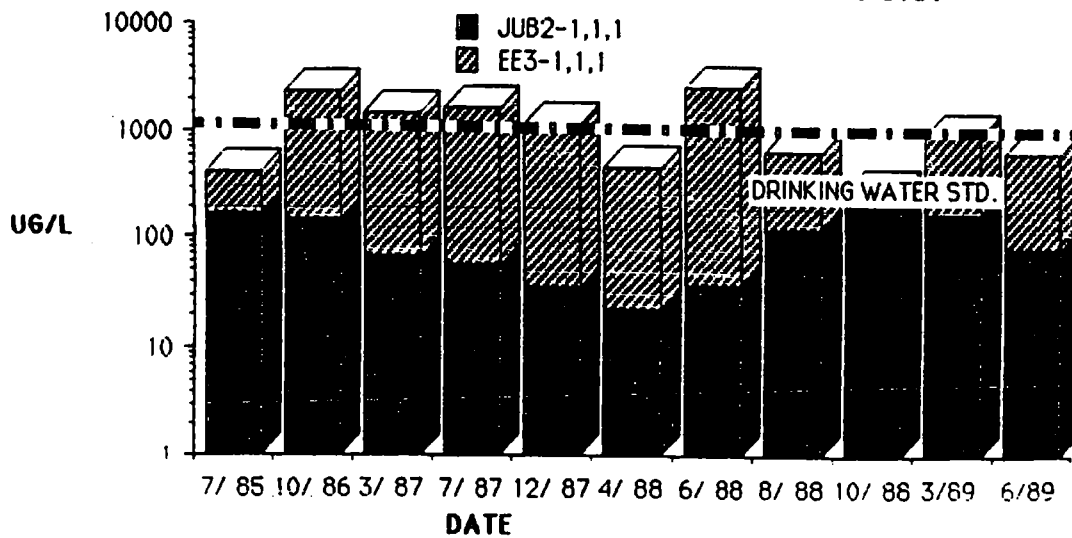


FIG.3. TRICHLOROETHYLENE EE3 VS JUB2.

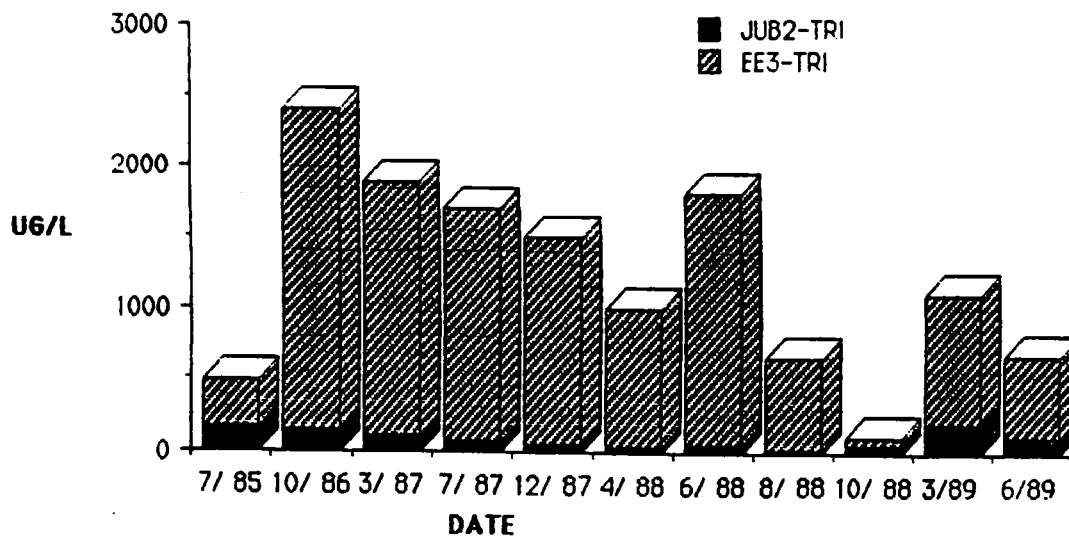


FIG.3L. TRICHLOROETHYLENE EE3 VS JUB2 VS STD.

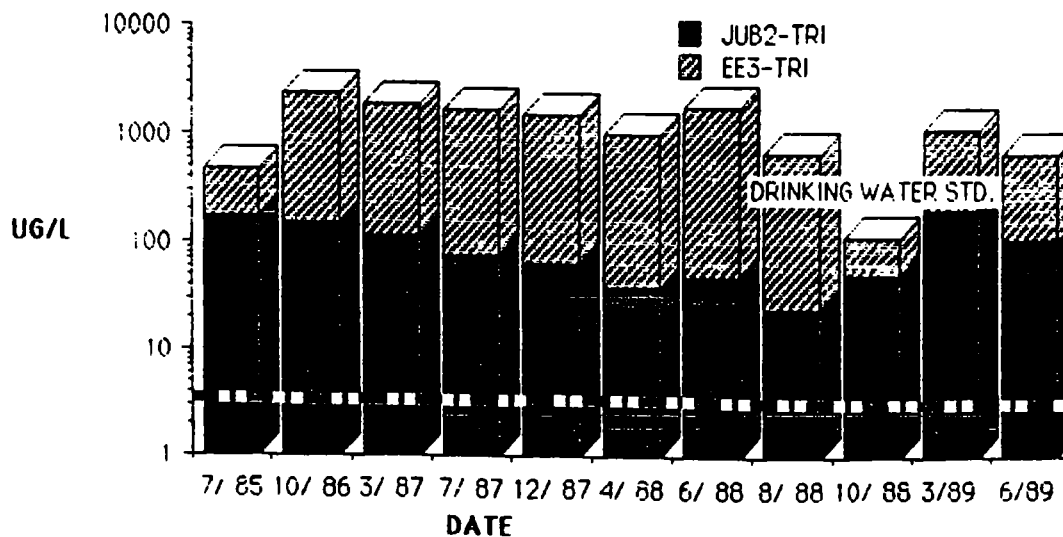


FIG.4. TETRACHLOROETHYLENE EE3 VS JUB2.

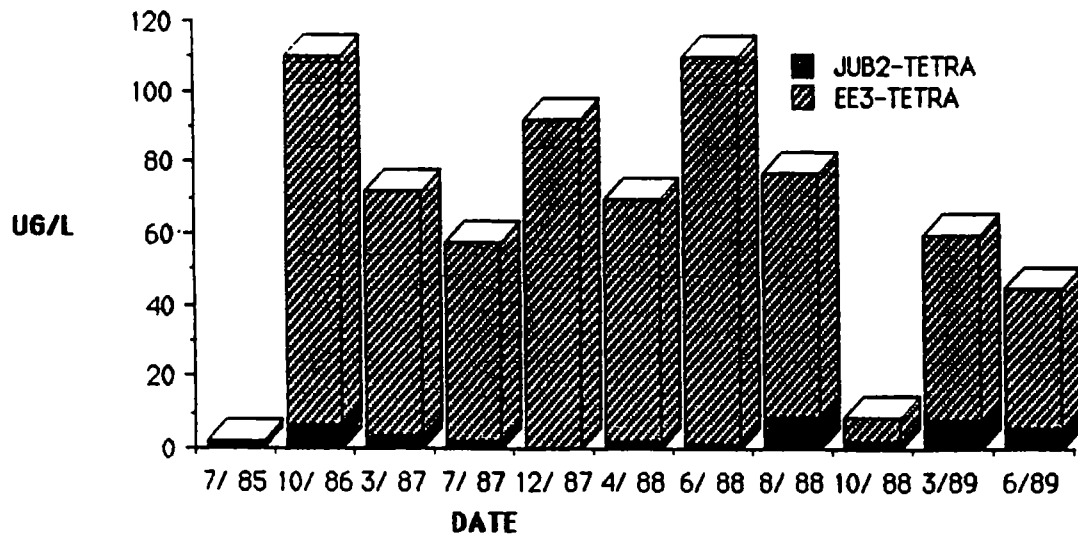
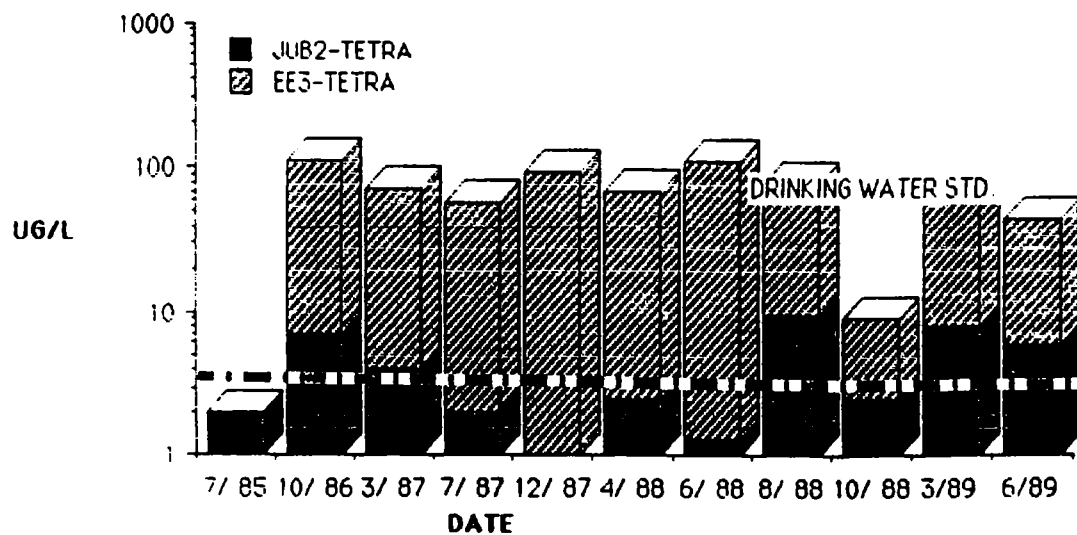


FIG.4L. TETRACHLOROETHYLENE EE2 VS JUB2 VS STD.



FILE COPY/c

Technico & Enviro Services Co.

(509) 7357283

Suite 33

1776 Fowler

Richland, Wa. 99352

April 25, 1989

Mr. Cris Matthews
Solid Waste Coordinator
Environmental Quality Div.
Washington Dept. of Ecology
N. 461 Monroe Street, Suite 100
Spokane, WA 99205-1295

Subject: Groundwater Monitoring Results at the Pasco
Sanitary Landfill

Dear Mr. Matthews:

This letter provides you with the water quality monitoring results for
the first quarter of 1989.

Sincerely,

John A. Zillich

JAZ/tg

Enclosure

cc: Larry Dietrich
Larry Kamberg

SITE: PASCO		ELEVATION DATA SHEET						
DATE: 3/89								
WELL NO.	DATE	MEASURED AT	TOP OF CASING ELEVATION	DEPTH TO WATER	GROUND WATER ELEVATION	SPEC COND	pH	TEMP C
JUB CONTROL	3/20/89	TOP OF PVC	411.6	52.80	358.80	540	7.85	16.8
JUB 1	3/20/89	TOP OF PVC	417.1	68.41	348.69			
JUB 2	3/20/89	HOLE IN CAP	408.3	59.35	348.96	560	7.6	16.8
JUB 3	3/20/89	TOP OF PVC	420.4	72.55	347.85			
JUB 4	3/20/89	TOP OF PVC	393.7	40.22	353.48	640	7.45	17.9
EE 1	3/20/89	TOP OF PIPE	417.2	57.49	359.71			
EE 2	3/20/89	HOLE IN CAP	418.9	67.29	351.58	650	7.4	16.6
EE 3	3/20/89	HOLE IN CAP	416.8	65.60	351.17	680	7	16.8
EE 4	3/20/89	TOP OF PIPE	397.6	45.40	352.20			
EE 5	3/20/89	TOP OF PIPE	407.9	58.51	349.39			
EE 6	3/20/89	TOP OF PIPE	427.0	72.25	354.75			
EE 7	3/20/89	TOP OF PIPE	425.6	71.20	354.40			
EE 8	3/20/89	TOP OF PIPE	428.4	71.55	356.85			

TECHNICO & ENVIRO SERVICES CO.
ANALYTICAL REPORT

CLIENT: PASCO LANDFILL
SAMPLED: 3/20/89
REPORTED: 4/20/89

LOCATION	DATE	CHLORIDE (MG/L)	AMMONIA (MG/L)	NITRITE (MG/L)	NITRATE (MG/L)
JUB CONRTOL	3/20/89	25.0		<0.05	7.8
EE3	3/20/89	32.5	<0.1	<0.05	0.8
JUB2	3/20/89	22.5	<0.1	<0.05	8.8
JUB4	3/20/89	22.5	<0.1	<0.05	7.6



Burmah Technical Services, Inc.
Analytical Laboratories Division

15199 Community Road
P.O. Drawer 2609
Gulfport, MS 39505

601-863-3036

ANALYTICAL REPORT

Technico & Environmental
1776 Fowler, Suite 33
Richland, Washington 99352

ATTENTION: Mr. John Zillich

DATE SAMPLE RECEIVED: 3/21/89
MONTH COVERED: March, 1989
CLIENT NUMBER: TEC200
SAMPLED BY: Client
FREQUENCY: As Requested
DATE: March 31, 1989

IDENTIFICATION: Water Samples

SAMPLE NUMBER:	13551	13552	13553	13554	13555	
CLIENT ID:	JUB Control	JUB4	EE3	JUB2	EE2	UNITS

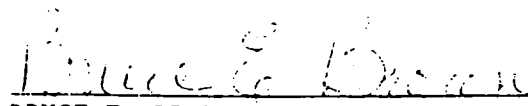
EPA 601 & 602

Vinyl Chloride	<2	<2	<2	<2	N/A	µg/l
1,1-Dichloroethane	<2	<2	70	8	<2	µg/l
Chloroform	<2	<2	10	15	<2	µg/l
1,1,1-Trichloroethane	<2	<2	1000	180	15	µg/l
Trichloroethylene	<2	<2	1100	200	10	µg/l
Tetrachloroethylene	<2	4	60	8	4	µg/l
Total Xylenes	<2	9	200	<2	<2	µg/l

TOC	9	12	21	10	N/A	mg/l
-----	---	----	----	----	-----	------

D.I. Blank - <1.00
46 mg/l Check Standard - 45.0
Acceptable Range - 35-57
Date Analyzed - 3/23/89
Analyst - DD

APPROVED BY:



BRUCE E. BROWN
LABORATORY MANAGER

ALCHEM LABORATORY

104 West 31st Street
Boise, Idaho 83714
(208) 336-1172

LABORATORY REPORT

TECHNICO & ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

ATTENTION: JOHN ZILlich
SOURCE -: JUB CONTROL

DATE COLLECTED - - -03/20/89
TIME COLLECTED - - -
DATE RECEIVED - - - 03/21/89
DATE REPORTED - - - 04/05/89
SUBMITTED : JOHN ZILlich

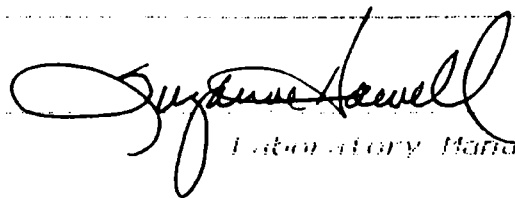
LAB SAMPLE NUMBER - 7250

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
TOTAL COLIFORM	** <1	03/21/89	KS
CHEMICAL OXYGEN DEMAND	11.0	03/31/89	RC
BARIUM	<0.1	04/04/89	DM
COPPER	<0.01	03/21/89	SH
IRON (DISS.)	0.05	03/28/89	SH
MANGANESE (DISS.)	<0.01	03/21/89	SH
ZINC (DISS.)	0.031	03/28/89	SH

COMMENTS: ** NO COLIFORM BACTERIA WERE FOUND ON CULTURE PLATE.

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested. Liability is limited to cost of analysis.


Laboratory Manager

ALCHEM LABORATORY

104 West 31st Street
Boise, Idaho 83714
(208) 336-1172

LABORATORY REPORT

TECHNICO & ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

ATTENTION: JOHN ZILlich
SOURCE -: EE 3

DATE COLLECTED - - - 03/20/89
TIME COLLECTED - - -
DATE RECEIVED - - - 03/21/89
DATE REPORTED - - - 04/05/89
SUBMITTED : JOHN ZILlich

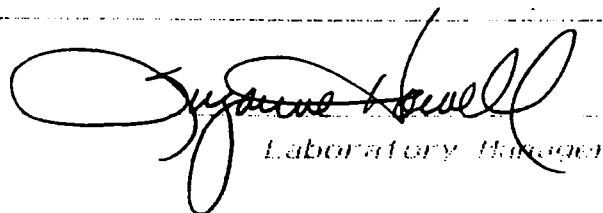
LAB SAMPLE NUMBER - 7251

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
TOTAL COLIFORM	** <1	03/21/89	KS
CHEMICAL OXYGEN DEMAND	20.0	03/31/89	RC
BARIUM	0.2	04/04/89	DM
COPPER	<0.01	03/21/89	SH
IRON (DISS.)	7.90	03/28/89	SH
MANGANESE (DISS.)	1.13	03/21/89	SH
ZINC (DISS.)	0.069	03/28/89	SH

COMMENTS: ** NO COLIFORM BACTERIA WERE FOUND ON CULTURE PLATE.

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Laboratory Manager

ALCHEM LABORATORY

104 West 31st Street
Boise, Idaho 83714
(208) 336-1172

LABORATORY REPORT

TECHNICO & ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

ATTENTION: JOHN ZILlich
SOURCE -: JUB 2

DATE COLLECTED - - -03/20/89
TIME COLLECTED - - -
DATE RECEIVED - - - 03/21/89
DATE REPORTED - - - 04/05/89
SUBMITTED : JOHN ZILlich

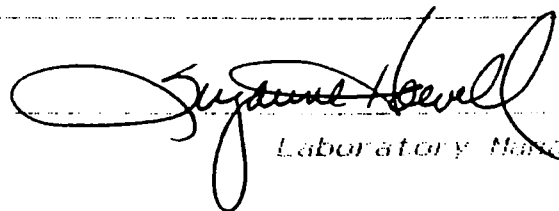
LAB SAMPLE NUMBER - 7252

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
TOTAL COLIFORM	** <1	03/21/89	KS
CHEMICAL OXYGEN DEMAND	4.0	03/31/89	RC
BARIUM	0.1	04/04/89	DM
COPPER	<0.01	03/21/89	SH
IRON (DISS.)	0.23	03/28/89	SH
MANGANESE (DISS.)	0.01	03/21/89	SH
ZINC (DISS.)	0.022	03/28/89	SH

COMMENTS: ** NO COLIFORM BACTERIA WERE FOUND ON CULTURE PLATE.

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested. Liability is limited to cost of analysis.


Laboratory Manager

ALCHEM LABORATORY

104 West 31st Street
Boise, Idaho 83714
(208) 336-1172

LABORATORY REPORT

TECHNICO & ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

ATTENTION: JOHN ZILlich
SOURCE -: JUB 4

DATE COLLECTED - - -03/20/89
TIME COLLECTED - - -
DATE RECEIVED - - - 03/21/89
DATE REPORTED - - - 04/05/89
SUBMITTED : JOHN ZILlich

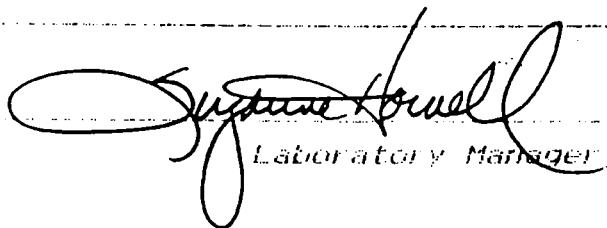
LAB SAMPLE NUMBER - 7253

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
TOTAL COLIFORM	** <1	03/21/89	KS
CHEMICAL OXYGEN DEMAND	13.0	03/31/89	RC
BARIUM	0.2	04/04/89	DM
COPPER	<0.01	03/21/89	SH
IRON (DISS.)	0.31	03/28/89	SH
MANGANESE (DISS.)	<0.01	03/21/89	SH
ZINC (DISS.)	0.014	03/28/89	SH

COMMENTS: ** NO COLIFORM BACTERIA WERE FOUND ON CULTURE PLATE.

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Laboratory Manager

ALCHEM LABORATORY

104 West 31st Street
Boise, Idaho 83714
(208) 336-1172

LABORATORY REPORT

TECHNICO & ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

ATTENTION: JOHN ZILlich
SOURCE -: EE 2

DATE COLLECTED - - -03/20/89
TIME COLLECTED - - -
DATE RECEIVED - - - 03/21/89
DATE REPORTED - - - 04/05/89
SUBMITTED : JOHN ZILlich

LAB SAMPLE NUMBER - 7249

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
BARIUM	<0.1	04/04/89	DM
COPPER	<0.01	03/21/89	SH
IRON	0.22	03/28/89	SH
MANGANESE	<0.01	03/21/89	SH

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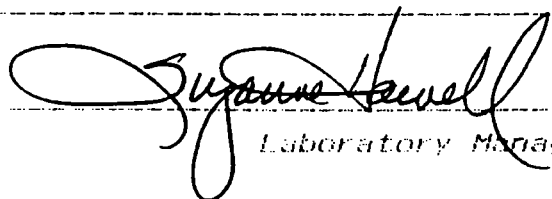

Laboratory Manager

FIG.2. 1,1,1-TRICHLOROETHANE EE2 VS JUB2.

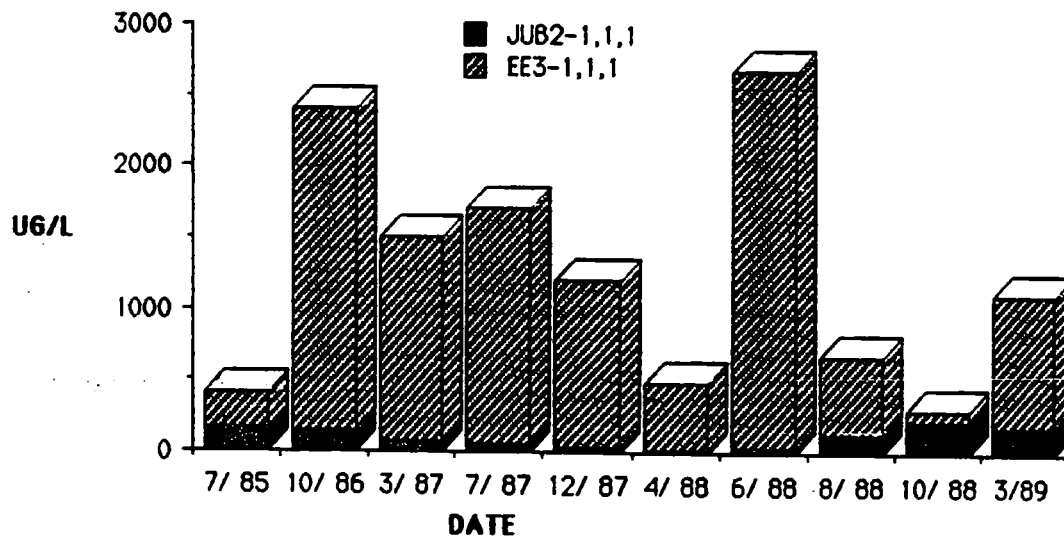
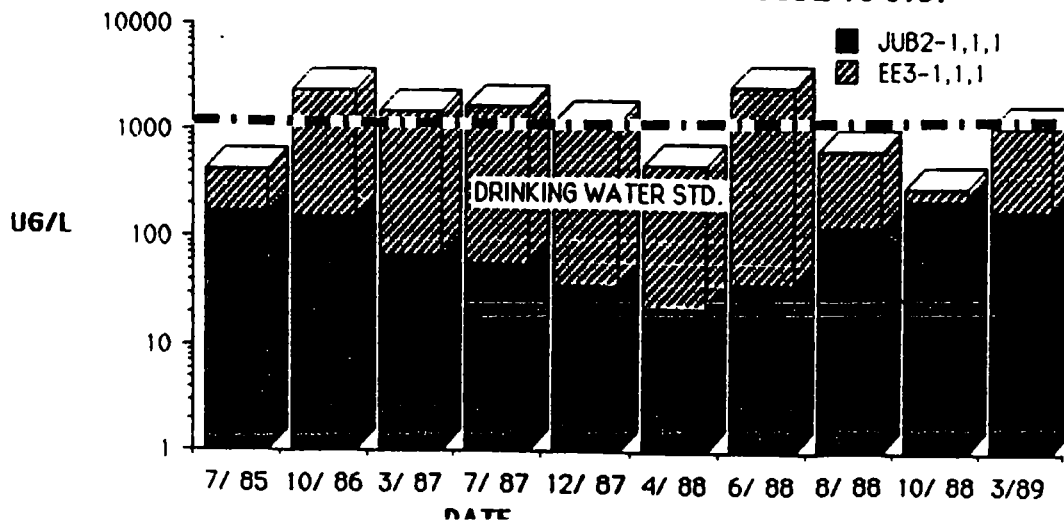


FIG.2L. 1,1,1 TRICHLOROETHANE EE3 VS JUB2 VS STD.



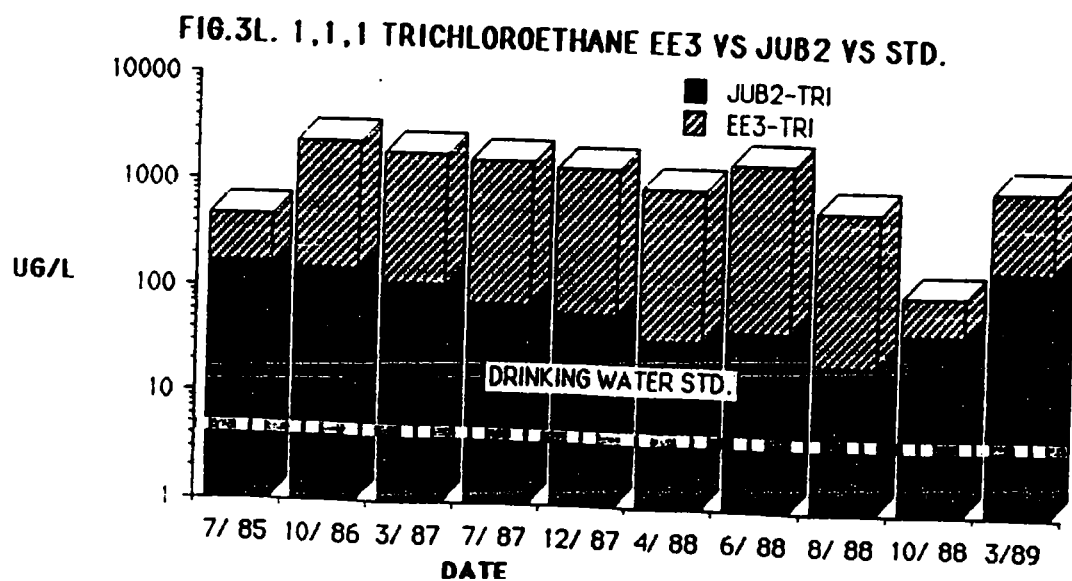
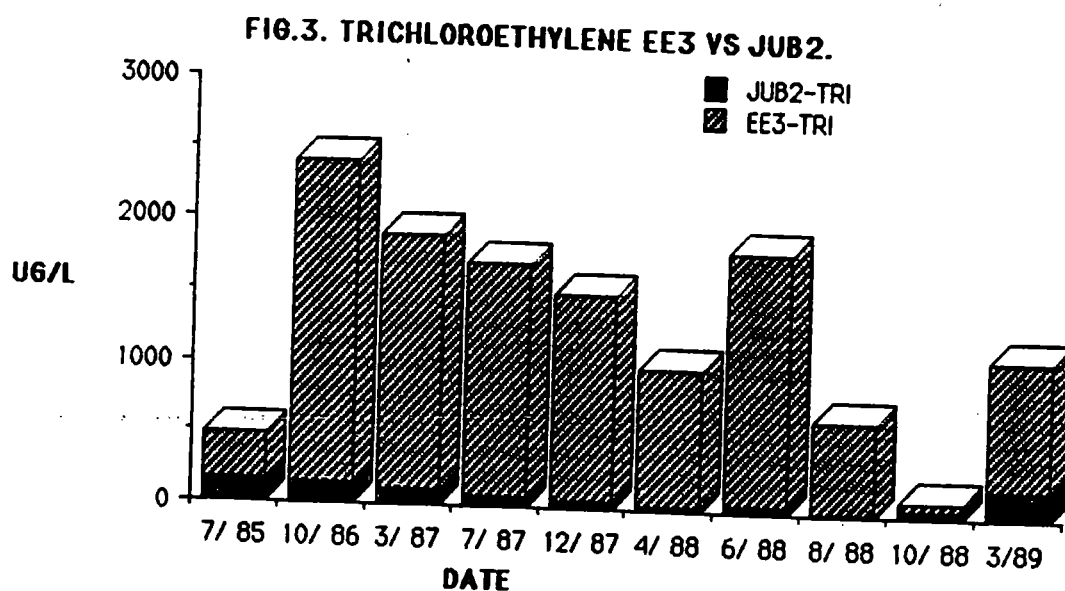


FIG.4. TETRACHLOROETHYLENE EE3 VS JUB2.

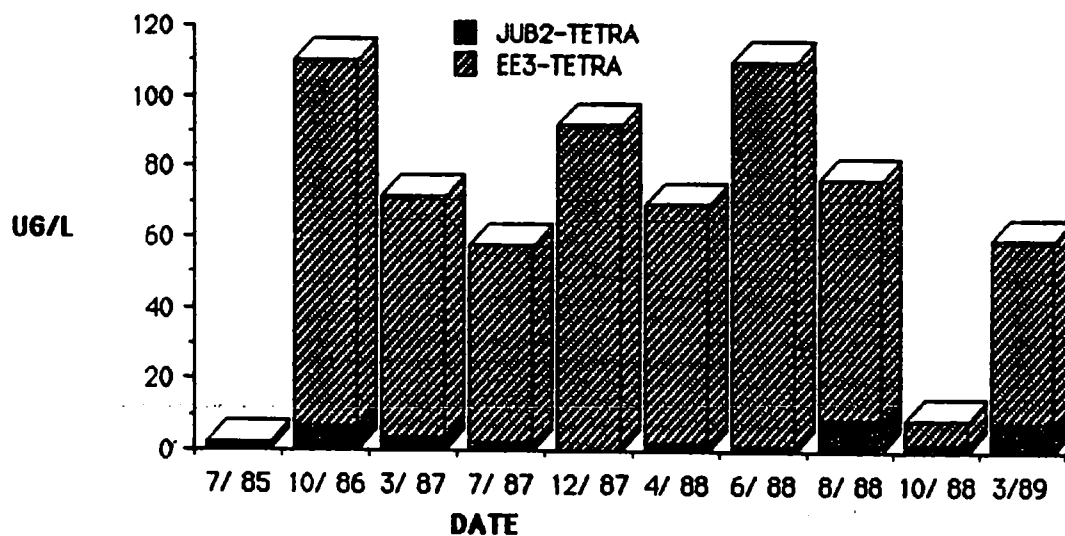
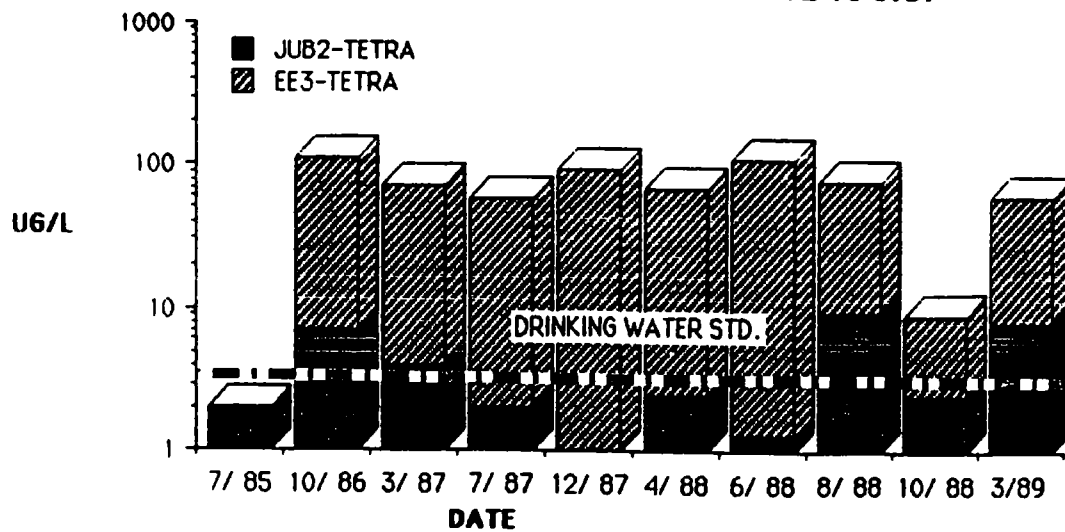


FIG.4L. TETRACHLOROETHYLENE EE2 VS JUB2 VS STD.



Technico & Enviro Services Co.

FILE/2

(509) 7357283

Suite 33

1776 Fowler

Richland, Wa. 99352

December 5, 1988

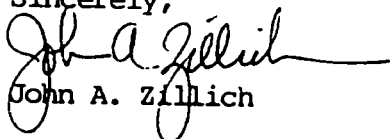
Mr. Cris Matthews
Solid Waste Coordinator
Environmental Quality Div.
Washington Dept. of Ecology
N. 4601 Monroe Street
Suite 100
Spokane, WA 99205-1295

Subject: Groundwater Monitoring Results at the Pasco
Sanitary Landfill

Dear Mr. Matthews:

This letter provides you with the water quality monitoring results for the fourth quarter of 1988. Wells requiring annual sampling will be sampled before the end of December.

Sincerely,


John A. Zillich

JAZ/tg

Enclosure

cc: Larry Dietrich
Larry Kamberg

PLF FIELD MEAS 10/88

				GROUND WATER					
	SITE: PASCO			ELEVATION DATA SHEET					
	DATE: 10/88								
			MEASURED	TOP OF CASING	DEPTH TO	GROUND WATER	SPEC COND	pH	TEMP C
	WELL NO.	DATE	AT	ELEVATION	WATER	ELEVATION			
	JUB CONTROL	10/26/88	TOP OF PVC	411.6	54.24	357.36	520	7.8	14.4
	JUB 1	10/26/88	TOP OF PVC	417.1	69.97	347.13			
	JUB 2	10/26/88	HOLE IN CAP	408.3	60.81	347.50	590	7.75	17.0
	JUB 3	10/26/88	TOP OF PVC	420.4	74.28	346.12			
	JUB 4	10/26/88	TOP OF PVC	393.7			660	7.4	16.3
	EE 1	10/26/88	TOP OF PIPE	417.2	59.73	357.47			
	EE 2	10/26/88	HOLE IN CAP	418.9	68.73	350.14	650	7.6	16.4
	EE 3	10/26/88	HOLE IN CAP	416.8	67.14	349.63	775	7.05	17.0
	EE 4	10/26/88	TOP OF PIPE	397.6	47.30	350.30			
	EE 5	10/26/88	TOP OF PIPE	407.9	56.07	351.83			
	EE 6	10/26/88	TOP OF PIPE	427.0	73.96	353.04			
	EE 7	10/26/88	TOP OF PIPE	425.6	73.09	352.51			
	EE 8	10/26/88	TOP OF PIPE	428.4	75.52	352.88			

ALCHEM LABORATORY

250 S. Beechwood Avenue, Suite II
Boise, Idaho 83709
(208) 376-2257

LABORATORY REPORT

TECHNICO-ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

ATTENTION: JOHN ZILlich
SOURCE -: D-I BLANK

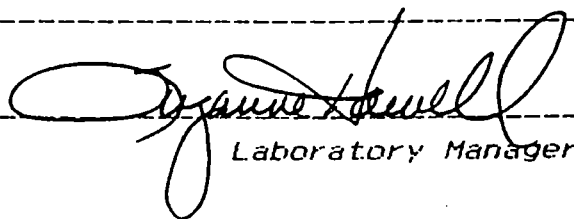
DATE COLLECTED - - - 10/27/88
TIME COLLECTED - - -
DATE RECEIVED - - - 10/28/88
DATE REPORTED - - - 11/07/88
SUBMITTED : JOHN ZILlich

LAB SAMPLE NUMBER - 5574

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
IRON (DISS.)	0.06	10/31/88	KS
MANGANESE (DISS.)	<0.01	10/31/88	KS
ZINC (DISS.)	0.011	10/31/88	RC

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Laboratory Manager

ALCHEM LABORATORY

250 S. Beechwood Avenue, Suite II
Boise, Idaho 83709
(208) 376-2257

LABORATORY REPORT

TECHNICO-ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

ATTENTION: JOHN ZILlich
SOURCE -: EB 2

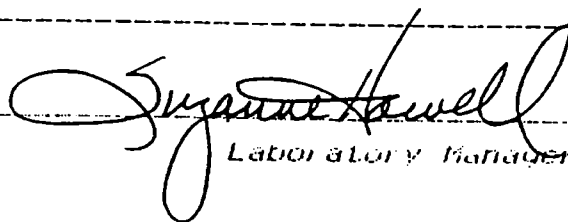
DATE COLLECTED - - -10/27/88
TIME COLLECTED - - -
DATE RECEIVED - - - 10/28/88
DATE REPORTED - - - 11/07/88
SUBMITTED : JOHN ZILlich

LAB SAMPLE NUMBER - 5573

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
CHEMICAL OXYGEN DEMAND	9.0	10/31/88	RC
BARIUM	0.10	11/07/88	DM
COPPER	<0.01	10/31/88	SH
IRON	0.08	10/31/88	KS
MANGANESE	<0.01	10/31/88	KS
ZINC	0.001	10/31/88	RC
IRON (DISS.)	<0.01	10/31/88	KS
MANGANESE (DISS.)	<0.01	10/31/88	KS
ZINC (DISS.)	<0.001	10/31/88	RC

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Laboratory Manager

ALCHEM LABORATORY

250 S. Beechwood Avenue, Suite II
Boise, Idaho 83709
(208) 376-2257

LABORATORY REPORT

TECHNICO-ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

ATTENTION: JOHN ZILlich
SOURCE -: JUB 2

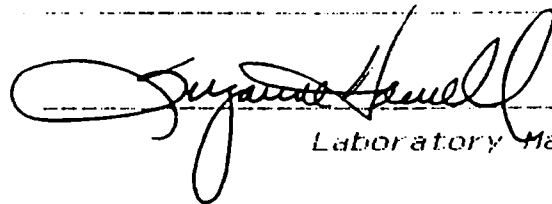
DATE COLLECTED - - -10/27/88
TIME COLLECTED - - -
DATE RECEIVED - - - 10/28/88
DATE REPORTED - - - 11/07/88
SUBMITTED : JOHN ZILlich

LAB SAMPLE NUMBER - 5572

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
CHEMICAL OXYGEN DEMAND	4.0	10/31/88	RC
BARIUM	<0.10	11/07/88	DM
COPPER	<0.01	10/31/88	SH
IRON	0.05	10/31/88	KS
MANGANESE	<0.01	10/31/88	KS
ZINC	0.001	10/31/88	RC
IRON (DISS.)	0.25	10/31/88	KS
MANGANESE (DISS.)	<0.01	10/31/88	KS
ZINC (DISS.)	0.002	10/31/88	RC

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Laboratory Manager

ALCHEM LABORATORY

250 S. Beechwood Avenue, Suite II
Boise, Idaho 83709
(208) 376-2257

LABORATORY REPORT

TECHNICO-ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

ATTENTION: JOHN ZILLICH
SOURCE -: JUB CONTROL

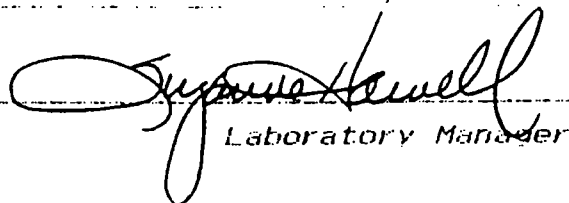
DATE COLLECTED - - -10/27/88
TIME COLLECTED - - -
DATE RECEIVED - - - 10/28/88
DATE REPORTED - - - 11/07/88
SUBMITTED : JOHN ZILLICH

LAB SAMPLE NUMBER - 5571

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
TOTAL COLIFORM	13	10/28/88	KS
CHEMICAL OXYGEN DEMAND	10.0	10/31/88	RC
BARIUM	0.10	11/07/88	DM
COPPER	<0.01	10/31/88	SH
IRON	0.09	10/31/88	KS
MANGANESE	<0.01	10/31/88	KS
ZINC	0.002	10/31/88	RC
IRON (DISS.)	<0.01	10/31/88	KS
MANGANESE (DISS.)	<0.01	10/31/88	KS
ZINC (DISS.)	0.009	10/31/88	RC

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Laboratory Manager

ALCHEM LABORATORY

250 S. Beechwood Avenue, Suite II
Boise, Idaho 83709
(208) 376-2257

LABORATORY REPORT

TECHNICO-ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

ATTENTION: JOHN ZILLICH
SOURCE -: EE 3

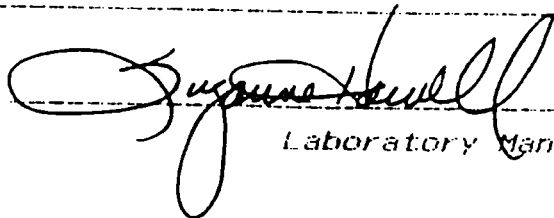
DATE COLLECTED - - -10/27/88
TIME COLLECTED - - -
DATE RECEIVED - - - 10/28/88
DATE REPORTED - - - 11/07/88
SUBMITTED : JOHN ZILLICH

LAB SAMPLE NUMBER - 5570

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
TOTAL COLIFORM	5	10/28/88	KS
CHEMICAL OXYGEN DEMAND	18.0	10/31/88	RC
BARIUM	0.20	11/07/88	DM
COPPER	<0.01	10/31/88	SH
IRON	12.70	10/31/88	KS
MANGANESE	1.37	10/31/88	KS
ZINC	0.004	10/31/88	RC
IRON (DISS.)	11.64	10/31/88	KS
MANGANESE (DISS.)	1.33	10/31/88	KS
ZINC (DISS.)	0.001	10/31/88	RC

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Laboratory Manager

ALCHEM LABORATORY

250 S. Beechwood Avenue, Suite II
Boise, Idaho 83709
(208) 376-2257

received
11/9/88

LABORATORY REPORT

TECHNICO-ENVIRO SERVICE
1776 FOWLER, SUITE 33
RICHLAND, WASHINGTON 99352

ATTENTION: JOHN ZILlich
SOURCE -: JUB 4

DATE COLLECTED - - - 10/27/88
TIME COLLECTED - - -
DATE RECEIVED - - - 10/28/88
DATE REPORTED - - - 11/07/88
SUBMITTED : JOHN ZILlich

LAB SAMPLE NUMBER - 5569

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

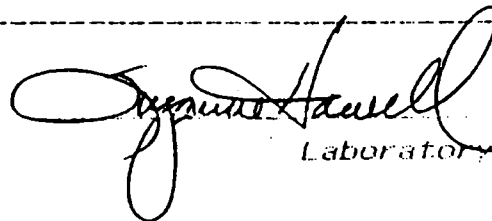
ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
TOTAL COLIFORM	** <1	10/28/88	KS
CHEMICAL OXYGEN DEMAND	7.0	10/31/88	RC
BARIUM	0.20	11/07/88	DM
COPPER	<0.01	10/31/88	SH
IRON	0.06	10/31/88	KS
MANGANESE	<0.01	10/31/88	KS
ZINC	0.003	10/31/88	RC
IRON (DISS.)	<0.01	10/31/88	KS
MANGANESE (DISS.)	<0.01	10/31/88	KS
ZINC (DISS.)	<0.001	10/31/88	RC

COMMENTS: ** NO INTESTINAL BACTERIA WERE FOUND ON CULTURE PLATE. **

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The Blank has
been subtracted
from the Diss
metals. Please

with Diss metals
and the results are


Laboratory Manager



Burmah Technical Services, Inc.
Analytical Laboratories Division

15199 Community Road
P.O. Drawer 2609
Gulfport, MS 39505

601-863-3036

ANALYTICAL REPORT

Technico & Environmental
201 West 33rd Avenue
Kennewick, Washington 99337

ATTENTION: Mr. John Zillich

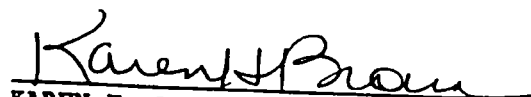
IDENTIFICATION: Water Samples
PASCO LANDFILL

DATE SAMPLE RECEIVED: 11/02/88
MONTH COVERED: November, 1988
CLIENT NUMBER: TEC200
SAMPLED BY: Client
FREQUENCY: As Requested
DATE: November 23, 1988
Page 2 of 2

SAMPLE NUMBER:	CLIENT I.D.	TOC	UNITS
09639	JUB Control	18.1 18.7 (Rep)	mg/l
09640	JUB2	15.9	mg/l
09641	JUB4	19.4	mg/l
09642	EE2	N/A	mg/l
09643	EE3	34.1 34.6 (Rep)	mg/l

D. I. Blank - <1.00
46 mg/l Check Standard - 49.2
Acceptable Range - 35-57
Spike Recovery - 97%
Date Analyzed - 11/3/88
Analyst - DD

APPROVED BY:


KAREN H. BROWN
LABORATORY MANAGER



Burmah Technical Services, Inc.
Analytical Laboratories Division

15199 Community Road
P.O. Drawer 2609
Gulfport, MS 39505

601-863-3036

ANALYTICAL REPORT

received
12/1/88

Technico & Environmental
201 West 33rd Avenue
Kennewick, Washington 99337

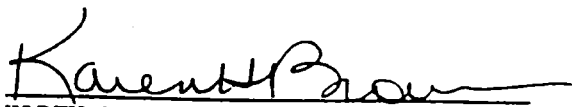
ATTENTION: Mr. John Zillich

DATE SAMPLE RECEIVED: 11/02/88
MONTH COVERED: November, 1988
CLIENT NUMBER: TEC200
SAMPLED BY: Client
FREQUENCY: As Requested
DATE: November 23, 1988
Page 1 of 2

IDENTIFICATION: Water Samples
PASCO LANDFILL

SAMPLE NUMBER:	09639	09640	09641	09642	09643	
CLIENT ID:	JUB CONTROL	JUB2	JUB4	EE2	EE3	UNITS
Vinyl Chloride	<5	<5	N/A	<5	<5	µg/l
1,1-Dichloroethylene	<5	35	N/A	<5	18	µg/l
1,1-Dichloroethane	<5	85	N/A	6	130	µg/l
Chloroform	<5	54	N/A	<5	44	µg/l
1,1,1-Trichloroethane	<5	230	N/A	40	291	µg/l
Trichloroethylene	<5	50	N/A	<5	112	µg/l
Tetrachloroethylene	<5	<5	N/A	<5	9	µg/l
Total Xylenes	<5	14	N/A	<5	85	µg/l

APPROVED BY:


KAREN H. BROWN
LABORATORY MANAGER

WATER BACTERIOLOGICAL ANALYSIS

SAMPLE COLLECTION: READ INSTRUCTIONS ON BACK OF GOLDENROD COPY

If instructions are not followed, sample will be rejected.

DATE COLLECTED MONTH 10 DAY 26 YEAR 88 TIME COLLECTED 2 ☐ AM ☒ PM COUNTY NAME _____

TYPE OF SYSTEM ☐ PUBLIC ☐ INDIVIDUAL (serves only 1 residence) IF PUBLIC SYSTEM, COMPLETE: I.D. No. CIRCLE CLASS 1 2 3 4

NAME OF SYSTEM WUB-2 Well

SPECIFIC LOCATION WHERE SAMPLE COLLECTED (e.g., kitchen tap, school, fire station, fountain) FE 3 Well SYSTEM OWNER/MGR. NAME AND TELEPHONE NO. Peter S. Lill

SAMPLE COLLECTED BY: (Name) Zell

SOURCE TYPE ☐ SURFACE ☐ WELL ☐ SPRING ☐ PURCHASED ☐ COMBINATION or OTHER

SEND REPORT TO: (Print Full Name, Address and Zip Code) Richard T. Lill
1776 Fowler
Richland WASHINGTON

TYPE OF SAMPLE (Check only one in this column)

1. ☐ DRINKING WATER ☐ Chlorinated (Residual: Total Free) check treatment → ☐ Filtered ☐ Untreated or Other _____
2. ☐ RAW SOURCE WATER
3. ☐ NEW CONSTRUCTION or REPAIRS
4. ☐ OTHER (Specify) _____

COMPLETE IF THIS SAMPLE IS A CHECK SAMPLE

PREVIOUS LAB NO. _____

PREVIOUS SAMPLE COLLECTION DATE _____

REMARKS: _____

LABORATORY RESULTS (FOR LAB USE ONLY)

MPN - COLIFORM	STD PLATE COUNT	SAMPLE NOT TESTED BECAUSE:
<u>5/5</u> tubes positive	<u> </u> / ml	<input type="checkbox"/> Sample Too Cloudy
MPN DILUTION <u> </u> / 100 ml	TEST UNSUITABLE	<input type="checkbox"/> Not in Proper Container
MF COLIFORM <u> </u> / 100 ml	1. <input type="checkbox"/> Confluent Growth	<input type="checkbox"/> Insufficient Information Provided—Please Read Instructions on Form
FECAL COLIFORM <u> </u> / 100 ml	2. <input type="checkbox"/> TNTC	
<input type="checkbox"/> MPN <input type="checkbox"/> MF	3. <input type="checkbox"/> Excess Debris	
	4. <input type="checkbox"/> _____	

FOR DRINKING WATER SAMPLES ONLY, THESE RESULTS ARE:

☐ SATISFACTORY ☒ UNSATISFACTORY

SEE REVERSE SIDE OF GREEN COPY FOR EXPLANATION OF RESULTS

LAB NO.	DATE, TIME RECEIVED—	RECEIVED BY
<u>6203569</u>	<u>10-26-88 4:15</u>	<u>DM</u>
DATE REPORTED <u>10-28-88</u>	LABORATORY: _____	
REMARKS: _____		

WATER SUPPLIER COPY

WATER BACTERIOLOGICAL ANALYSIS

SAMPLE COLLECTION: READ INSTRUCTIONS ON BACK OF GOLDENROD COPY

If instructions are not followed, sample will be rejected.

DATE COLLECTED MONTH 10 DAY 26 YEAR 88 TIME COLLECTED 1 ☐ AM ☒ PM COUNTY NAME _____

TYPE OF SYSTEM ☐ PUBLIC ☐ INDIVIDUAL (serves only 1 residence) IF PUBLIC SYSTEM, COMPLETE: I.D. No. CIRCLE CLASS 1 2

NAME OF SYSTEM FE 3 Well

SPECIFIC LOCATION WHERE SAMPLE COLLECTED (e.g., kitchen tap, school, fire station, fountain) FE 3 Well SYSTEM OWNER/MGR. NAME AND TELEPHONE NO. Peter S. Lill

SAMPLE COLLECTED BY: (Name) Zell

SOURCE TYPE ☐ SURFACE ☐ WELL ☐ SPRING ☐ PURCHASED ☐ COMBIN/ or OTHER

SEND REPORT TO: (Print Full Name, Address and Zip Code) Richard T. Lill
1776 Fowler
Richland WASHINGTON

TYPE OF SAMPLE (Check only one in this column)

1. ☐ DRINKING WATER ☐ Chlorinated (Residual: Total Free) check treatment → ☐ Filtered ☐ Untreated or Other _____
2. ☐ RAW SOURCE WATER
3. ☐ NEW CONSTRUCTION or REPAIRS
4. ☐ OTHER (Specify) _____

COMPLETE IF THIS SAMPLE IS A CHECK SAMPLE

PREVIOUS LAB NO. _____

PREVIOUS SAMPLE COLLECTION DATE _____

REMARKS: _____

LABORATORY RESULTS (FOR LAB USE ONLY)

MPN - COLIFORM	STD PLATE COUNT	SAMPLE NOT TESTED BECAUSE:
<u>5/5</u> tubes positive	<u> </u> / ml	<input type="checkbox"/> Sample Too Cloudy
MPN DILUTION <u> </u> / 100 ml	TEST UNSUITABLE	<input type="checkbox"/> Not in Proper Cont.
MF COLIFORM <u> </u> / 100 ml	1. <input type="checkbox"/> Confluent Growth	<input type="checkbox"/> Insufficient Information Provided—Please Read Instructions on Form
FECAL COLIFORM <u> </u> / 100 ml	2. <input type="checkbox"/> TNTC	
<input type="checkbox"/> MPN <input type="checkbox"/> MF	3. <input type="checkbox"/> Excess Debris	
	4. <input type="checkbox"/> _____	

FOR DRINKING WATER SAMPLES ONLY, THESE RESULTS ARE:

☐ SATISFACTORY ☒ UNSATISFACTORY

SEE REVERSE SIDE OF GREEN COPY FOR EXPLANATION OF RESULTS

LAB NO.	DATE, TIME RECEIVED—	RECEIVED BY
<u>6203568</u>	<u>10-26-88 4:15</u>	<u>DM</u>
DATE REPORTED <u>10-29-88</u>	LABORATORY: _____	
REMARKS: _____		

WATER SUPPLIER COPY

Results for October Sampling
at Pasco Sanitary Landfill

Location	Date	Cl	SO ₄
JUB Control	10/27/88	28	31.6
EE 3	10/26/88	45	20.6
JUB 2	10/26/88	30	34.5
JUB 4	10/27/88	21	31.1

FIG. 4. TETRACHLOROETHYLENE EE3 VS JUB2.

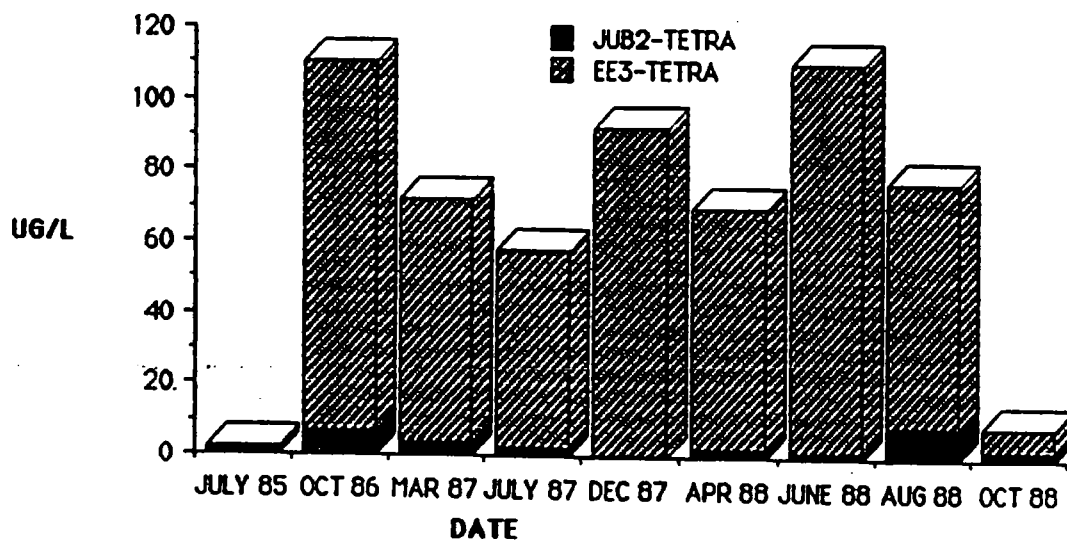


FIG. 4L. TETRACHLOROETHYLENE EE3 VS JUB2 VS STD.

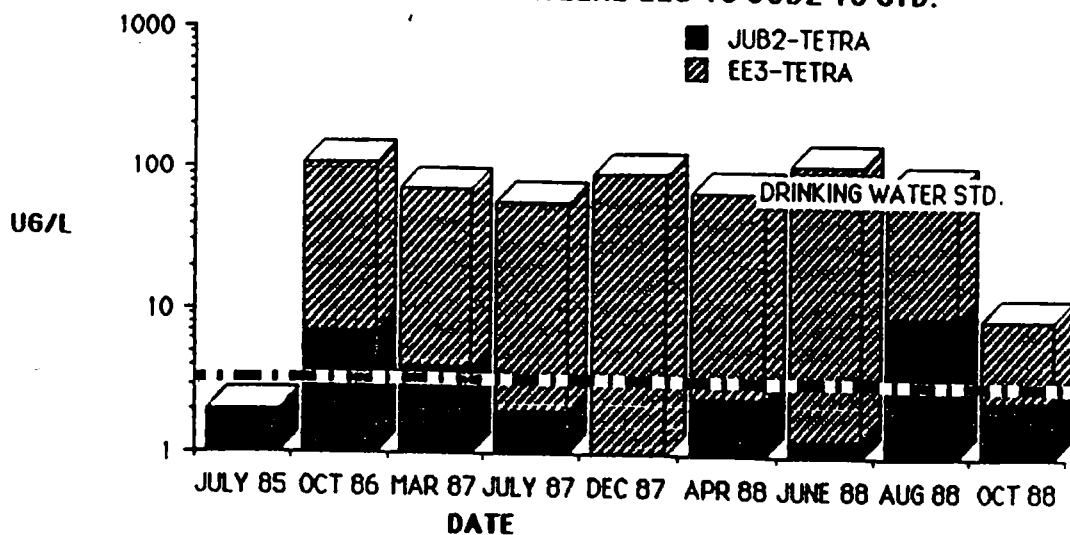


FIG.3. TRICHLOROETHYLENE EE3 VS JUB2.

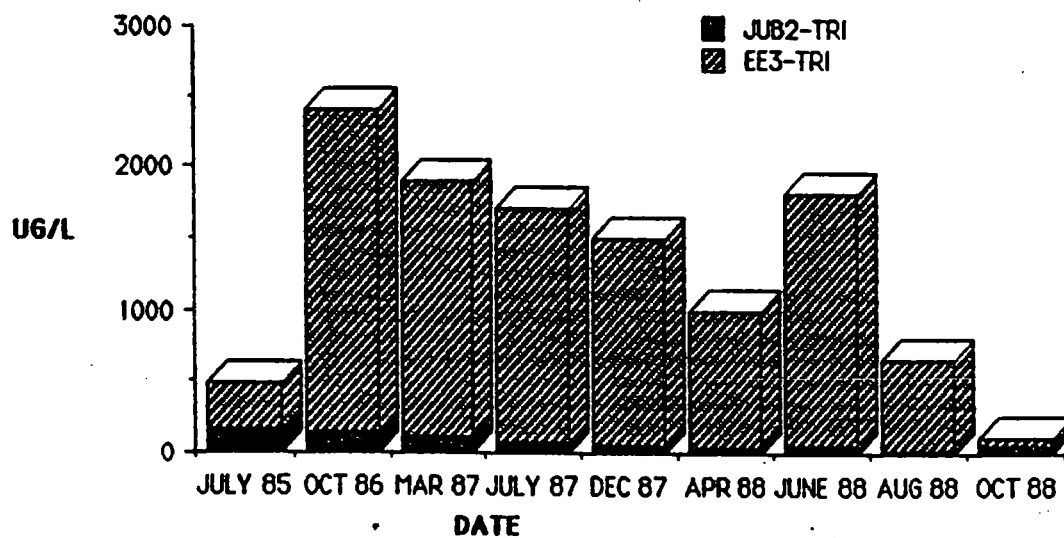
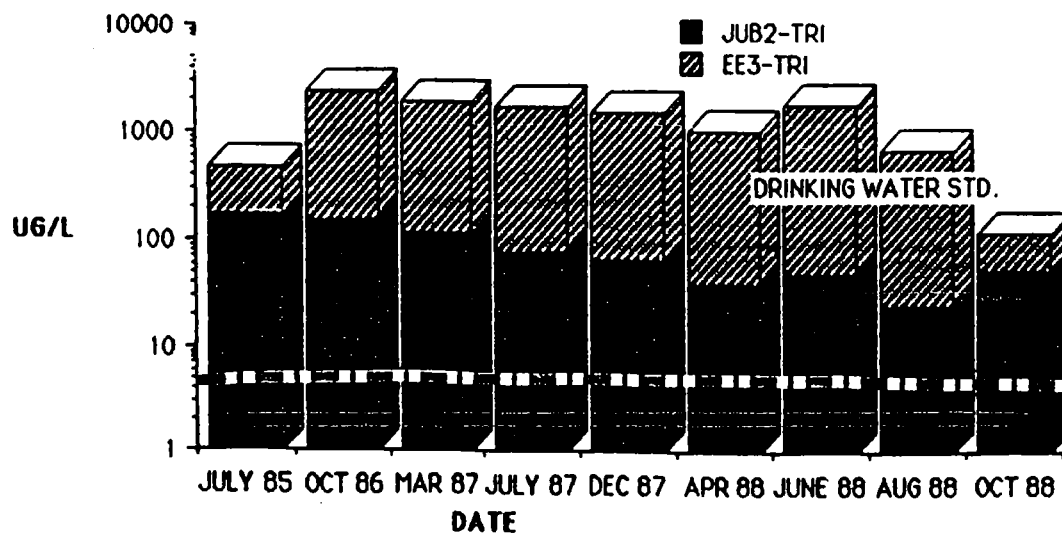
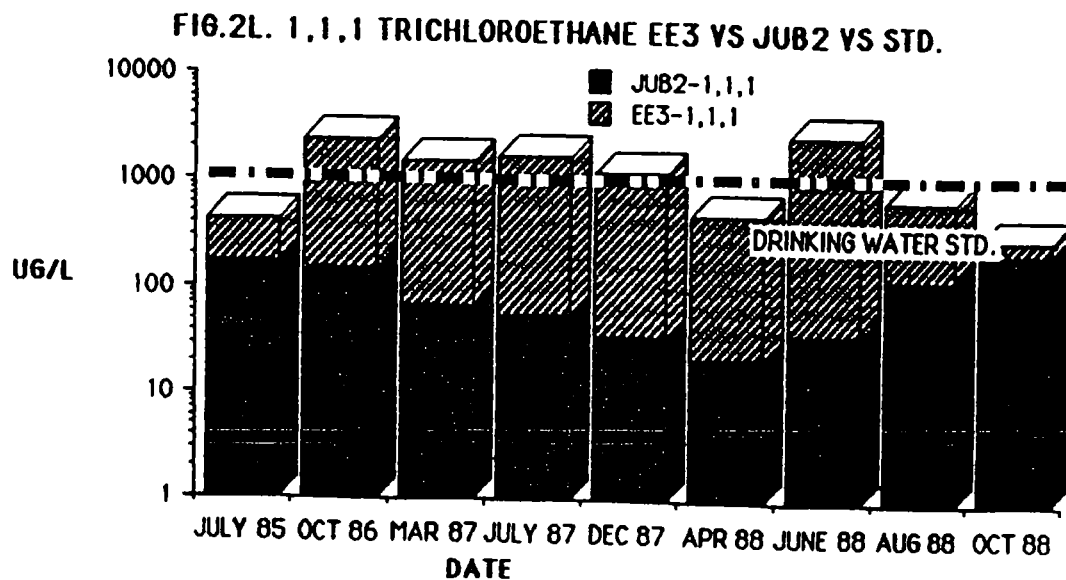
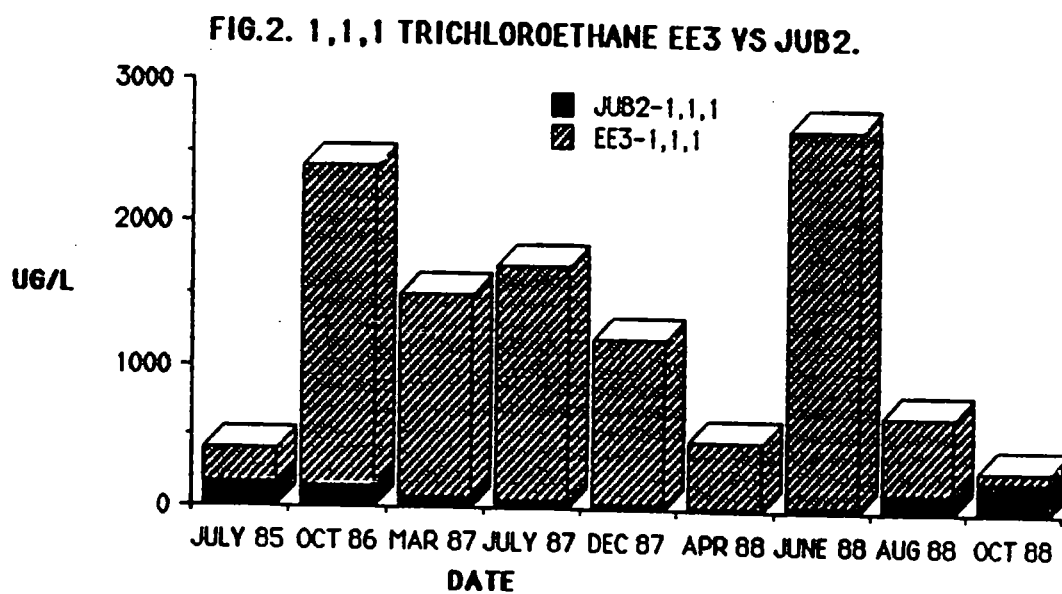


FIG.3L. TRICHLOROETHYLENE EE3 VS JUB2 VS STD.





JOB No. 12532 DATE: 10/27/88

Sample No. B10206VD.WA1

Matrix: Water Analysis: GC-PID

Surrogate
Compound

Percent
Recovery

Comment

Control
Limits

4-Chlorotoluene

100

20 - 150

Sample No. 01

Matrix: Water Analysis: GC-PID

Surrogate
Compound

Percent
Recovery

Comment

Control
Limits

4-Chlorotoluene

88

20 - 150

Sample No. 02@1/2

Matrix: Water Analysis: GC-PID

Surrogate
Compound

Percent
Recovery

Comment

Control
Limits

4-Chlorotoluene

83

20 - 150

JOB No. 12532 DATE: 10/27/88

Sample No. B1020GVD.WA1

Matrix: Water Analysis: GC-HALL

Surrogate
Compound

Percent
Recovery

Comment

Control
Limits

4-Bromofluorobenzene
4-Chlorotoluene

97
101

76 - 121
20 - 150

Sample No. 01

Matrix: Water Analysis: GC-HALL

Surrogate
Compound

Percent
Recovery

Comment

Control
Limits

Bromochloromethane
4-Chlorotoluene

78
74

73 - 125
20 - 150

Sample No. 02@1/2

Matrix: Water Analysis: GC-HALL

Surrogate
Compound

Percent
Recovery

Comment

Control
Limits

4-Bromofluorobenzene
4-Chlorotoluene

78
71

76 - 121
20 - 150

Laucks ^{80 years}

Testing Laboratories, Inc.

940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063

Certificate

Chemistry Microbiology and Technical Services

CLIENT: Technico & Environmental Services
201 West 33rd Avenue
Kennewick, WA 99336
ATTN: John Zillich

LABORATORY NO. 12532

DATE: Nov. 10, 1988

Project No. 88.4

REPORT ON: WATER

SAMPLE

IDENTIFICATION: Submitted 10/07/88 and identified as shown below:

- 1) Pasco Landfill Tippet Spray
- 2) Pasco Landfill Tippet Well Bead

TESTS PERFORMED AND RESULTS:

	<u>parts per billion (ug/L)</u>		
	<u>1</u>	<u>2#</u>	<u>Method Blank</u>
1,1-Dichloroethylene	<1.0	<2.0	<1.
1,1-Dichloroethane	<1.0	<2.0	<1.
trans-1,2-dichloroethylene	<1.0	<2.0	<1.
Chloroform	<1.0	<2.0	<1.
1,1,1-Trichloroethane	<1.0	<2.0	<1.
Trichloroethylene	<1.0	<2.0	<1.
Toluene	<1.0	<2.0	<1.
Xylene	<1.0	<2.0	<1.
Tetrachloroethylene	2.0	<2.0	<1.
Vinyl Chloride	<10.	<20.	<10.

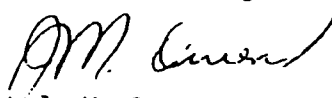
Key

< indicates "less than"

Only 5 mls of Sample was purged due to sample foaming.

Respectfully submitted,

Laucks Testing Laboratories, Inc.


J. M. Owens

JMO:1aj



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PAGE NO. 2

LABORATORY NO. 12532

APPENDIX

Surrogate Recovery Quality Control Report

Attached are surrogate (chemically similar) compounds utilized in the analysis of organic compounds. The surrogates are added to every sample prior to extraction and analysis to monitor for matrix effects, purging efficiency, and sample processing errors. The control limits represent the 95% confidence interval established in our laboratory through repetitive analysis of these sample types.



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APPENDIX B
PHOTOGRAPHIC DOCUMENTATION

PHOTOGRAPH IDENTIFICATION SHEET

Camera Serial No.:
Lense Type: 50 mm

TDD No.: T10-8910-009
Site Name: Pasco Sanitary Landfill

Photo No.	Date	Time	Taken By	Description
1	11/14/89	1100	P. Witt	EE 3 and JUB 2 in background southwest.
2	11/14/89	1105	P. Witt	EE 6 - West.
3	11/14/89	1110	P. Witt	EE 4 - East.
4	11/14/89	1110	P. Witt	EE 5 - North.
5	11/14/89	1115	P. Witt	EE 7, metal pile - West.
6	11/14/89	1125	P. Witt	Active sanitary landfill area - North.

